THE ART CLASS IN ACTION

A COLLECTION OF TECHNICAL INFORMATION AND SUGGESTED ACTIVITIES FOR SCHOOLS

BY

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FOREWORD

During the past few years, "art" in its various forms has assumed a place of increasing importance in the programme of the elementary school. From being a "subject" studied during the "art" period on one or two days a week, it has become an activity related to almost every phase of school life, and this increased emphasis has been accompanied by marked changes in schoolroom practice.

These changes have resulted largely from the prominence given to two important considerations which have profoundly affected the thinking of elementary teachers. In the first place, it is recognized that children should be encouraged to express their own ideas in their own way; and that "art" in its many aspects is as legitimate a form of expression as those verbal forms for which we used largely to reserve our approval. From this consideration it follows that adult standards cannot be applied to children's work; but that the child's spontaneous efforts are deserving of our respect so long as they are characterized by sincerity of purpose and honesty of effort.

If children are to be encouraged "to express their own ideas in their own way", it is obvious that the media employed in the classroom cannot be limited to the traditional pencil, crayon and box of water-colours. Nor need they be. A great variety of suitable media and processes is available for the pupil's use. It is this very wealth of material and the question of how to use it that often constitutes the teacher's most serious problem.

"The Art Class in Action" will go a long way towards helping the busy teacher to solve this problem. Many a teacher who has been eager to introduce to her pupils new media and processes, has hesitated to do so because she has had no experience with them herself. Miss Horne has provided the teacher with the best possible substitute for that experience. She lays down no "method" for teaching "art". But she has assembled a wealth of information and advice about processes and materials that will give the adventurous teacher the courage she needs in treading new paths. Whether it be lino-cuts, or soap-sculpture, or marionettes, the teacher may lead the art class into action with confidence, secure in the knowledge that the direction Miss Horne has provided out of the richness of her own experience, gives guidance upon which the teacher can safely rely.

STANLEY WATSON,

Toronto Normal School.

April, 1941.

INTRODUCTION

Since the revision of the curriculum for the elementary schools of Ontario in 1937, there has been a demand from teachers for information regarding the newer types of work to be presented. Especially is this true in art, where changes have been particularly sweeping and where emphasis upon the subject has increased sharply. It now seems more important than ever before that teachers have a wide variety of helpful art material ready at hand.

For teachers in general, and overburdened rural teachers in particular, this book seeks to provide such material inexpensively and compactly. The suggestions and directions are simple and practical. Their purpose is not only to encourage, but to enable, the most hesitant teacher to make a start in a strange field with a minimum of wasted time and effort.

The nucleus of the material presented here was collected by the teachers-in-training at the Toronto Normal School, for their own benefit. It was suggested by the late Mr. Thornton Mustard that this material be enlarged and made available for others who have neither the time nor opportunity to search for it themselves. While a discussion of methods of teaching art is not attempted, it is hoped that the suggestions will indicate that school art is something far more varied and interesting than the drawing of ellipses and strawberry boxes.

In most sections will be found material simple enough for the first grade and advanced enough for the older and the unusually gifted children. As the amount and variety of supplies in some schools may be extremely limited, a special effort has been made to suggest cheap or scrap materials which may be used. Lack of money is a poor excuse for lack of variety in school art.

March, 1941.

J. M. H.

Part I of the book contains general information which the teacher may find useful for self-instruction, but which, let it be clearly understood, is not in any sense to be mastered by the children before they proceed to the activities described. When they meet problems which they cannot solve it is time enough to teach them material of this sort. Growing naturally out of activities such as those of Parts II and III, an understanding of the more important principles of Part I should be reached by the end of the regular public and secondary school courses.

In using the suggestions it is hoped that the inventiveness of the children will be stimulated. If the illustrations are wrongly used the opposite will be true. Making a copy of any of the pictures will do a child little good even though he copies well. The pictures are intended as starting points for thinking. In this way originality or creative power is developed.

At the end of most sections a short bibliography is given to guide teachers who wish to study further. Only those books are included which are really helpful and low in price. In fact there are many costing only a few cents each. Urban teachers may find these books in local libraries, while rural teachers may be able to borrow them from the lending libraries operated by the provincial governments in most provinces.

The labour of preparing the manuscript has been greatly lightened by helpful suggestions from many friends. Particular thanks are due to Miss Dorothy Medhurst of The Children's Art Centre, Art Gallery of Toronto; Mr. T. T. Carpenter, Supervisor of Art for Public Schools, Toronto; Mr. Stanley Watson of the Toronto Normal School staff; Mr. H. E. Elborn, Principal of the Toronto Normal School; and the late Mr. J. S. Irwin.

INTRODUCTION TO SECOND EDITION

This book goes to press for the second time with a short section of new material added to increase its usefulness to teachers of primary and junior grades. The reference lists have been revised and brought up to date. The policy in selection has been, for the most part, to list modern, practical and inexpensive books written for children and elementary school teachers, and to include a few of the best books in the various fields for the pleasure and profit of those who wish to study beyond the limits of these pages.

October, 1944.

J. M. H.

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PART I

GENERAL INFORMATION FOR THE TEACHER

CHAPTER I

Pictorial Composition and Design.

Many teachers believe that school art is a difficult field, in which no great interest or pleasure may be found unless the instructor has special training. In actual fact, there is no good reason for discouragement. Any teacher, at the cost of some effort, may become acquainted with the underlying principles of art, and may lead children to apply those principles as opportunities arise in the art work of the classroom.

In Part I of this book we shall discuss briefly several principles affecting school art. First of all, we shall consider two closely related topics —picture composition and design.

The word **composition** is commonly used in connection with pictures. It means in drawing, painting, and sculpture exactly what it means in music or literature. It is the selection of elements and their arrangement.

Design is the word generally used in speaking of such things as buildings, bridges, textiles, clothing, and furniture. The words design and composition may be used somewhat interchangeably, and their meaning may also be expressed by the terms pattern, arrangement, and art structure. All mean planning, usually by means of drawings.

The plans may result in the production of things for man's use, such as articles of furniture, or of things solely for his enjoyment, such as pictures. Both types of art are necessary, and both yield him deep satisfaction. Plans for either type may be of two classes, (1) the imitative, or (2) the decorative.

Imitative art represents or copies nature closely, although the artist at the same time selects and arranges. Pictures and sculpture usually belong to this class. The artist tries to make the result as true to life as possible. Decorative art, on the other hand, may begin with nature as its inspiration, but it is not realistic. It does not look like the real thing. The work we commonly call design is classed under this heading, and is frequently applied to useful articles.

But articles made for man's use may be imitative. We see flower holders shaped to resemble elephants, dogs, and the like. A hen's head lifts off to disclose a match receptacle. Such an object is absurd because it is thoroughly artificial. Designs on useful objects, too, are sometimes imitative or realistic. For example, a sewing box may carry an elaborate bouquet of roses, or drapery material may rejoice in detailed landscape "repeats". As a general rule, the more naturalistic the design, the less suitable it is for decorative purposes.

Just as useful articles are sometimes realistic, so pictures and sculpture are sometimes decorative. Many artists feel that greater satisfaction is derived from work which brings out forcibly the beautiful design in nature, than from that which obscures the design with a mass of detail. While there is no reason why artists or sculptors should not work in a decorative manner if they wish, there is good reason for objecting to imitative adornment of objects which we use. Such treatment violates the law of fitness to purpose.

To understand this law it is necessary to realize that plans for useful objects have two distinct aspects, (1) structure, and (2) adornment. The first is of more importance than the second. When we think of the structural design of a table we think of its purpose, shape, material, and construction. A table which is to hold a telephone is planned differently from a dining table. The telephone table has no heavy duties to perform but must be of convenient height and size for its purpose. The dining table must be large enough for the

family's needs, strong, of the right height for comfortable dining, and wide enough to allow plenty of space without putting people so far apart that they cannot carry on a conversation easily.

The shape of the table depends on its purpose, on standards of beauty at the time, and on the possibilities of the material. The material influences the plan considerably for some woods lend themselves to delicate design while others require massive treatment. If the material were glass or metal, the design would be influenced accordingly.

The designer must know how the table will be made. If a cabinetmaker constructs it, he may do fine hand carving. If it is to be factory-made, the possibilities will be limited by the machines used.

The table may be left without applied ornament and, if the structural design is good, the result may be quite satisfying. If ornament is decided upon, such ornament must be planned from start to finish to fit that particular table. First of all, the designer must decide where ornament shall be placed. There are several possible places—the top, underneath the edge, the frame below the top, the legs, and the stretchers. Some of these must be discarded as impractical. Ornament on the top of a dining table would spoil it for its purpose, since dishes would rest partly on the ornament, and tip over easily. Under the top the ornament would be wasted because out of sight. The other places mentioned are more suitable, but if all were loaded with ornament the table would be in bad taste. The amount of decoration should be small when compared with the total visible surface, because, after all, the ornament exists for the table, not the table for the ornament. Simplicity is always an advantage in decoration unless carried to a severe extreme.

Having determined where to place the ornament, and how much to use, the designer selects a suitable motif and keeps it in harmony with the table as a whole. Keeping in mind the material of which the table is to be built, and the method of construction, he completes the design.

If we re-read at this point the examples given of imitative ornament used on objects, the reason for their rejection should be clear. The shape of a dog or elephant separated entirely from its animal association, does not make a good flower holder. Moreover, its meaning and shape have nothing in common with the flowers it contains. The hen match holder may serve its purpose well enough but the idea is incongruous and the shape with the lid off is not attractive. The sewing box may not seem too ridiculous with its bouquet of roses but the box's rectangular shape should influence their arrangement and character. As soon as it does they are no longer realistic. The more it influences them the further from the realistic and the nearer toward the decorative they become. The landscape "repeat" on the drapery material is spoiled as the material hangs in folds, and, while attractive in the bolt, it will be disappointing in use. Decorations must fit their purpose before they can succeed.

In planning any design it is important to realize just what materials there are to work with.

(1) **Line** or **contour.** Usually we begin our planning by drawing lines. The location, the kind, and the length of these lines are all of vital importance. We cannot hope to have a good result unless we build a sound foundation.

(2) **Pattern of light and dark.** If we consider a photograph or any other picture we can resolve it into a silhouette by making all light tones white and all dark tones black. By so doing we get rid of colour, most tone values, and small details. The main light and dark arrangement or pattern of the work is thus brought out strongly. No work of art is good unless this pattern is well balanced and interesting. So in making a composition it is well to think of the masses of light and dark before we accept our line arrangement. Artists actually try out their patterns in silhouette in this second stage, to see if they are satisfactory.

(3) **Third dimension.** In arithmetic we learn that flat surfaces have two dimensions, length and width. Solid objects have three dimensions, length, width, and height or depth. Many works of art (such as houses, sculpture, china and jewellery) have three dimensions. Others (such as pictures and drapery materials) have really only two dimensions. Artists may,

if they wish, give an appearance of third dimension by their use of perspective and light and shade. This is commonly done in pictures but the artist may choose to ignore the third dimension. Posters and book jackets done in flat colours may resemble decorations rather than pictures. Children's cut paper work and many of their drawings are without third dimension.

Sometimes sculptors work with comparatively little third dimension, as in low reliefs.

(4) **Colour.** We may or may not employ colour in our work.

(5) **Texture.** The kind of surface used is obviously of importance in the construction of objects. A vase has to be rough or smooth, shiny or dull. Among materials used for clothing are many textures, smooth, slippery, slightly rough, pebbly, woolly, etc. We cannot get away from texture in these. In pictures which are printed there is some difference in surface according to the paper and the process used by the printer. In paintings there is quite a variety of textures. Artists sometimes use coarse canvas, sometimes fine; some paint very smoothly, others in thick dabs with brushes full of paint. Some artists use the paint thinly in the shadows and pile it on in the light areas. In school work we seldom give much thought to texture, but with the variety of papers and paints now available, it will be possible for us to secure varied effects in this respect.

In design there are certain principles which it is wise to follow, at least until the subject is thoroughly understood. Artists often disdain rules, claiming that they deaden originality. That may be so to them, but their artistic senses are so well trained that they can detect faults immediately. The rest of us with less sure judgment require training. The need of such training is one of the reasons for studying art in school.

Let us list the desirable qualities which a design or composition should possess. It should be clearly understood that, unlike a problem in simple addition which must be either right or wrong, there are widely varying degrees of each quality.

(a) The first of these desirable qualities is **good proportion.** We are concerned with a pleasing relationship first of all, between the length and width of the design as a whole, and then with the lengths and widths of the parts into which it is divided. We are concerned not only with lines but with areas as well.

To those of us whose senses are not trained in this respect, the phrase "pleasing relationships" means very little. We want to know what is accepted as being a pleasing relationship. There is a standard which is accepted as being a good one and, while we do not necessarily use it exactly, it does help. This standard is the Greek 2:3 ratio. As the Greeks have never been excelled in their space arrangements we cannot do better than study their results.

In figs. 1 to 7 inclusive, on page 5, are a number of rectangles in various proportions. Adult students, who had not seen them before, were asked to think of these rectangles as picture frames. They were to tell which they would eliminate in choosing pictures with no particular wall space in mind. Almost invariably the results were the same in many separate classes. The large majority in each class agreed that they would eliminate Nos. 1 and 7. Further questioning eliminated Nos. 2, 4, and 6. This left Nos. 3 and 5 as the most agreeable shapes. No decided preference for either of these was shown. The class noted that Nos. 1 and 7, 2 and 6, and 3 and 5 are in the same proportion, while No. 4 is a square. They arrived at the conclusion that where length and width are greatly different people generally dislike the effect. It becomes more and more pleasing as these lengths approach each other until the maximum pleasure is reached in Nos. 3 and 5 which are in the 2:3 ratio. Then their pleasure becomes less as equal proportions are approached.

When we come to fill or to divide the space in a design we should keep this result in mind. In general we should try to avoid equal or nearly equal space divisions on the one hand and extremely unequal, unrelated space divisions on the other hand. Most pictures and pieces of sculpture are composed in this natural-looking way. They are informal in arrangement as in fig. 28.

On the other hand, many examples may be found, such as the front view of the human

figure, in which the parts on one side of a middle vertical line equal the parts on the other side. This is a formal arrangement and so far depends on the equal division of space. Study the proportions of the human figure further and it will appear that this equal division does not always exist. The lengths and widths of features of the face, of arm and leg parts are examples of unequal space divisions.

Repeated designs, such as figs. 34, 36 and 42, show equal space divisions (formal arrangement). It should be noticed, however, that within the repeated motifs or units themselves will be found unequal division.

In designing, then, we must decide whether to use a formal or informal arrangement. If it is to be formal we must plan how far we may carry the formality without spoiling the effect through monotony.

Let us experiment with the designing of a striped material. Our first attempt might look like fig. 8 where stripes and spaces are the same width. Compare this result with our second attempt, fig. 9, which has stripes alike but narrower than the spaces. Obviously the second is more interesting than the first because there is variety in the widths or space divisions used. Compare the third attempt, fig. 10, with the second. Here a set of three stripes of varying widths with varying spaces between is repeated. This one has the greatest variety in its space division and therefore holds our interest most. It would be possible to break up our spaces further until very intricate patterns were evolved. The stage would finally be reached where we would feel that the spaces were so broken as to give a confusing effect.

We might try making plaids after the manner of figs. 11, 12 and 13. These correspond to the stripes in the three preceding figures. Fig. 11 has equal space divisions and is quite uninteresting. Space is much better divided in fig. 12, while fig. 13 shows a more intricate arrangement, although not necessarily a better one. We need not feel that it is wrong to have any two relatively unimportant spaces alike but no large area or width should be repeated.

Suppose we try arranging objects to get interesting space divisions. Fig. 14 shows a vase of flowers and a book on a table. Examining it we find that the vase and the book each occupies about one-third of the width of the picture, thus the whole is divided into three nearly equal sections. The table line divides the height of the picture into two equal parts, so there is repetition here again. How much better is the arrangement in fig. 15, where space divisions vary, and how much more natural such a picture looks!

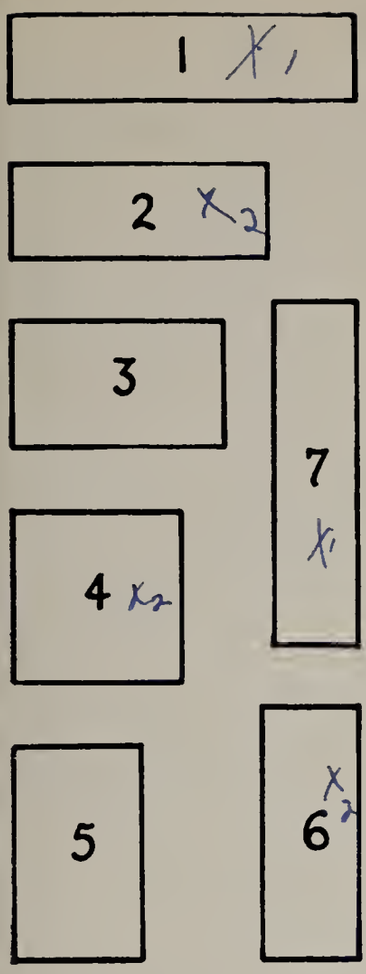
In addition to the points mentioned there are other faults in fig. 14 which should be avoided. The book just touches the edge of the picture, and overlaps the vase a very little. Such an arrangement leads us to see the book as joined to the frame and vase. These are awkward spots which could easily be improved. In fig. 15 the book overlaps the vase substantially and lies clearly away from the edge of the picture. This is much more satisfactory. We need to be on the watch for lines which run into each other in a misleading fashion. The edge of the tablecloth runs into the corner of the picture giving us the uncomfortable feeling that the picture is crooked. This is improved in fig. 15.

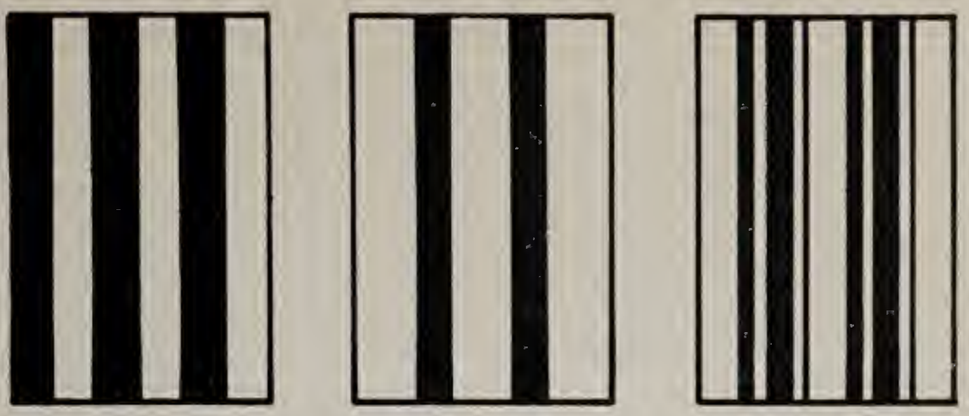
Fig. 16 is a common arrangement of mountains and a moon in children's drawings. The skyline is half way down the picture, the mountains are almost alike, and the road turns into the middle of the picture leaving nearly equal space divisions at the bottom. The moon is the same distance from each mountain as it is from the top. Fig. 17 shows one way to eliminate these faults.

In the composition of a picture, in structural design, in the placing of decoration on an object or in designing a single motif, we need to understand the principles of good proportion, particularly as they affect space division.

(b) The second desirable quality in design is **harmony.** We often speak of harmonious colours and harmonious arrangements, but find it very difficult to explain just what we mean by the terms. Harmony is the correct adjustment of parts, or colours, to one another so as to form a pleasing and connected whole.

First we must have harmony in idea. When we select the elements to use in our designs we shall have a more pleasing result if they all "go together". They must have something in common. How ridiculous it would be to paint a





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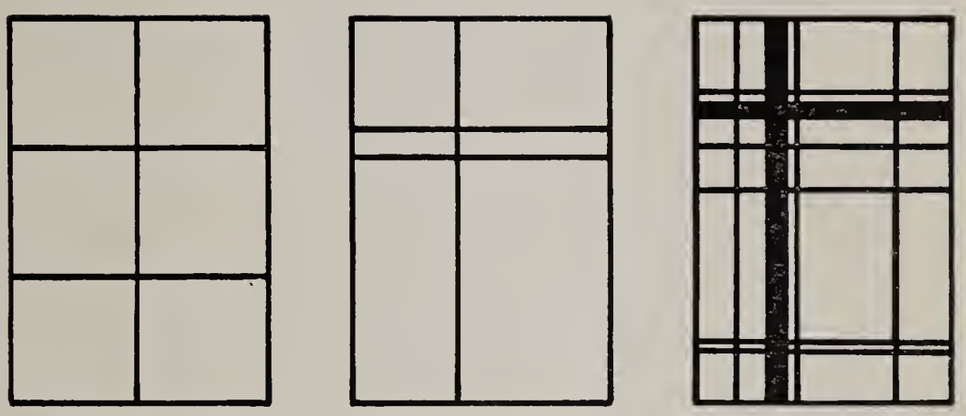

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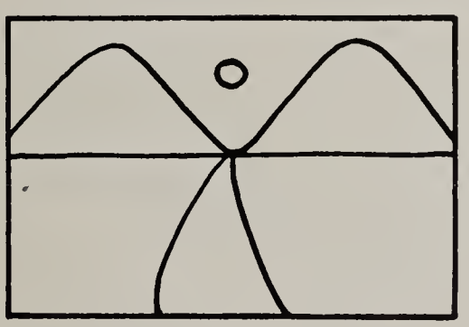

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portrait of a girl wearing rough gardening clothes and an expensive string of pearls. Or would we be pleased with a picture portraying luscious fruit and a coal scuttle? Too much similarity, of course, may produce a monotonous result. It is the artist's business to decide just how much contrast in idea is desirable for his purpose.

It is necessary that the elements in a design have some definite relation to one another in size. We really said this before when we were talking of variety in spaces. It is possible to have our spaces so unlike that they have nothing at all in common and so are not harmonious. A little ring looks unsuitable on a large hand, and a very large hat appears ridiculous when worn by a tiny woman.

Harmony of line in the making of a design requires considerable thought and planning. The kind of lines used should suit the purpose or the feeling to be expressed. Think what lines suggest qualities like peace, dignity, solid dependability, or energy. Some of these are suggested in figs. 18 to 23 inclusive.

Lines when used together will either help or hinder each other. Two lines stopping each other making a right angle are said to be in opposition. They contrast as strongly as lines can, acting like complementary colours. Each emphasizes the other or makes it more noticeable. The contrast is strongest at an angle of 90 degrees and gets less and less as the angle between them becomes smaller. Lines which are parallel like the horizontal ones in fig. 12 have a strengthening effect. See how much stronger these two lines are than the single vertical one of the same pattern. Lines which repeat each other are completely harmonious but become monotonous when used too often.

We may harmonize the lines of our design by giving them something in common with the outside shape of the design and so with each other. This might be made clearer by saying that the lines of the design should show that they have been influenced by the border lines and by other leading lines. Figs. 24 and 25 show this influence. We may add to the design a little opposition of line for variety.

Another way to harmonize opposing lines is by use of transition lines. These literally carry you over from one line to the other without a jar. In building construction there are many examples of this transition, such as the corners in fig. 26 where the extra corner piece not only helps the line arrangement but serves as a brace as well. The vase in fig. 27 shows another example of transition of line. Here transition from the curved and somewhat vertical lines to the horizontal ones is made at points marked T. In light and dark patterns the need for transition is felt at times. If a woman wears a black dress with a white collar there is startling contrast between them. The effect is softened if she has a row of white lace around the edge of her collar. Then the white and black areas mingle more intimately along the edge as some of the white is carried over into the black area.

When we are dealing with the fitting together of shapes such as in mounting drawings on a large sheet, it is simpler to think of harmony of shapes rather than of individual lines. The ideas involved are the same.

Harmony of colour in design is discussed in Chapter 2 so need only be mentioned here.

Harmony of texture is also important. Just as with lines, shapes, and colours, textures which are too much alike become monotonous when used together, while those which are too unlike are inharmonious. A sweater looks better than a delicate blouse with a rough tweed suit. Simple pine furniture suits a log cabin better than finely carved mahogany.

(3) A third desirable quality in the design of pictures or objects is **unity.** Just as in English composition we achieve unity in a paragraph by talking about just one thing with all details subordinated to it, so in design we achieve unity by emphasizing one element or group of elements and subordinating all the rest. The element emphasized is called the centre of interest and should be easy to pick out. A picture with more than one centre of interest is like a three-ring circus with each show fighting for attention. The result is confusion to the spectator.

We may get unity in a design by the following means:

(1) By putting the important element in a central place. (Note the position of the cabin in fig. 28). This "central place" does not mean

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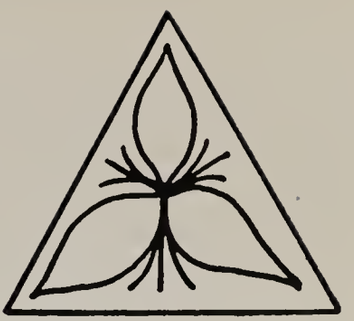

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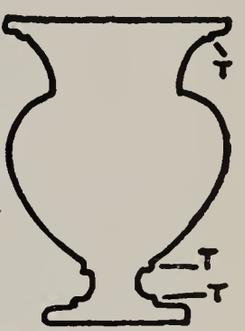

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SETTLER'S LOG HOUSE

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KRIEGHOFF

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right in the middle, but it should be well in from the border lines. The elements which are placed far out to the edge or touching it are positively subordinated.

(2) By making the centre of interest large. We are all familiar with this means of emphasis. If we make the important element large we are going to have it in the foreground in most cases due to the effects of perspective. Because the cabin in fig. 28 is large, even primary children will pick it out as the centre of interest in the picture.

(3) By line convergence. Fig. 29 shows a design in which lines converge to the centre. If we think where our eyes travel we will discover that they invariably end at the central point. Any element placed at this point will be emphasized. Poster artists sometimes use this means of securing emphasis. A more subtle convergence of line will lead the eye to the centre of interest no matter where it chances to look first. Notice what happens in fig. 28. Practically every line of importance leads the eye to the cabin. Children in the senior grades are much interested in the way the artist leads them through the picture.

(4) By line opposition. As we explained a few paragraphs previously, when one line stops another, the contrast between them strengthens them. If a strong, important line stops a weaker one, only the strong line is emphasized to any extent. The fact that the cabin cuts over the natural path of several lines strengthens its lines.

(5) By tone contrast. An excellent way to emphasize an element is to make it dark in an otherwise light picture, or light in an otherwise dark picture. Subordinated objects and backgrounds should be closer together in value.

(6) By colour contrast. Give the centre of interest strong colour compared to the subordinated elements. Strong colours are sure to come boldly forward.

Artists do not necessarily employ all the possible means of emphasizing the important part of a picture at any one time. One way may be enough. Usually several ways are combined to give added strength without the means of emphasis being too obvious.

(d) The fourth quality desired in a design is **balance.** We all know what it is like to make a false step and to lose physical balance. Pictures and designs must also have good balance or they, too, will "fall down". In a picture we are balancing attraction rather than pounds. We must feel that there is an equal pull on our attention from both sides of a central vertical line. If we have this feeling we are conscious of a sense of repose or rest.

Balance is achieved in three ways.

(1) Symmetry. If we look down from above on a flower such as the daisy, the petunia, or the cosmos, we see that it makes little difference how far around we turn it for it looks always the same. These flowers have symmetrical balance. Fig. 30 is an example of a design which, seen from four different sides, remains the same. This kind of balance is formal or fixed and is used only in decorative design.

(2) Bisymmetry. Look at the flowers mentioned above from the side view and we discover this form of balance. If we drew a line down the middle the right side would exactly equal the left but would be reversed. Other examples are the front views of animals, birds and human beings. Fig. 31 is an example of this kind. It is a formal kind of balance which is used a great deal in structural and in decorative designs and in pictures to a lesser extent. A formal picture or arrangement of this sort is bound to involve some equal space divisions.

(3) Occult or hidden balance. This is informal balance used in structural and decorative designs and in most pictures and sculpture. It is much more natural and interesting than formal balance. To understand it, let us consider the principle of the see-saw. Most children know that a heavy weight placed near the support or fulcrum will exactly balance a light weight placed far out. If one knew the weights it would be easy to figure out just how far the two weights should be from the fulcrum in order to balance.

Since there is no means of measuring attraction, we must train our eyes to judge when the two parts are balanced. If we imagine the line down the centre of the design as the fulcrum, the rule is—a large attraction placed near the centre on one side is balanced by a

small attraction placed far from the centre on the other side. Just how near and far they must be we have to judge. Fig. 32 will show this to us. The feeling that the picture hangs straight depends on the fact that the large boat near the centre is balanced by the small one far from it.

We must think of balance as including not only light and dark, but colour and texture as well. We should take each matter in turn and pass judgment on its balance before we are satisfied with the design. It is important to remember that a small mass which is in vivid contrast to its surroundings will balance a large mass showing weaker contrast.

(e) The fifth design quality is **rhythm.** It may be defined as a slow measured movement throughout a design.

The simplest kind of rhythm is obtained by mere repetition of a simple unit as in fig. 33. This is similar to the simple beating of time by a kindergarten rhythm band, or the striking of one note on a piano at even intervals of time. It has rhythm but it is monotonous.

If we add other motifs and form a repeat as in fig. 34 we have improved the design by giving a certain amount of variety. It would be possible to go on improving it to any degree which we thought desirable. This type is sometimes called static rhythm which means that it is standing still.

With these examples compare fig. 35 in which the wave from A to B is repeated. Notice the path taken by the eyes in fig. 33 as they follow the design. Compare with this what happens when we look at fig. 35. It will readily be seen that the eye follows the wave line throughout its length. This is true rhythm for a slow measured movement is plainly noticeable. Such an elementary design might be elaborated to give more variety, possibly as in fig. 36. The flowing or dynamic rhythm is still apparent because other parts of the design have been subordinated to the first and main line.

But, the question arises, is it possible to have rhythm in pictures too? The answer is yes. As one would expect, the rhythm is shown in a slightly different way. Static rhythm in a picture is seen in fig. 37 where the straight vertical lines of the buildings are repeated again and again but with a difference. They are not all of the same length nor at the same intervals as are the lines in fig. 33. Nevertheless, there is a decided resemblance through them all and we do feel that it is a case of one line repeated over and over again. While there is definite repetition in this picture there is no easy flowing movement.

Look now at fig. 38. Is there any line or shape there which is repeated over and over again? The lines in the ground repeat one another definitely, as do the shapes of the tree tops. Looking closely, we see that variety is obtained by differences in the length and direction of the lines. The rhythm is dynamic because our eyes are led through the picture by the related lines. In nature we find numberless examples of this repetition with variations. An example is shown in fig. 39.

It is important to realize that in any well planned picture the eye is led around to and held within the main part of the picture. But the lines which do this may or may not be related. If they are not related we cannot say that the lines have rhythm, for the movement in such case is not related movement. Where lines radiate from a central point there is movement but not necessarily rhythm. The criss-crossing lines in fig. 41 lead the eye along but force it to go this way and that with a restless jumpy movement which is not rhythmical. An arrow head leads the eye in the direction in which it points but again this is not rhythm. If the eye is led too rapidly, restlessness is the result.

(f) The last on our list of design qualities is **originality** or **freshness.** "There is nothing new under the sun", and we do not expect anyone to produce work unlike anything ever done before. A good way to obtain original results is by striving to adapt known material to our own needs in the best possible way. If we merely accept the results which fitted someone else's needs, we have simply copied. On the other hand, if we adapt according to our own ideas the result will be original and probably much better than we ever thought possible.

If we are enthusiastic over the work and carry

it to completion while we feel that way, we shall find that the result is surprisingly different from that achieved by the person who was driven to the work and who laboured over it. This difference is the result of spontaneity. It is found to a marked degree in the work of small children.

In the making of "repeat" patterns there are still a few points which should be discussed.

A single motif or unit of any shape which is complete in itself and used without repetition is called a spot design. Examples are a monogram, the decoration in the centre of a plate, or the design for a brooch.

If one or more motifs are repeated evenly along a narrow strip we call the result a border. Examples of the use of these borders may be found along towel ends, around a room, along the top of a blackboard, and around the edge of a tablecloth.

A third type of design is the all-over pattern. The motif or motifs are repeated not only along an edge but over the entire surface. We use a great many all-over patterns in our homes for wallpaper, drapery, upholstery, rugs, and clothing.

In making an all-over repeat pattern we must select some simple geometric shape which, when repeated, will completely cover the surface. Squares, rectangles, diamonds, and triangles are the simplest of these. In the shape selected the motif is designed. Circles may be used if we treat the spaces left between as separate motifs which have to be considered by themselves. Figs. 40 to 43 inclusive show paper laid out and used for some repeat patterns.

In the case of squares or rectangles it is often good for the sake of variety to use what is called a drop repeat. The first row of blocks is placed as at A A in fig. 43. The second row is dropped down half the height of the block as at B B. The next row is dropped down half the height again. This is repeated. It is obvious that the half drop, as it is called, is not the only possible sort of drop repeat. In the same way a quarter drop or any other fraction may be used.

When making surface patterns the small children simply put a motif in each block as in fig. 40. Usually the background area predominates. Later we expect them to make patterns like that in fig. 41 where the background is subordinated to the motifs. The children should realize that when motifs are repeated new shapes are formed which are not obvious from the single motif. They should look for these shapes and plan what they will be.

Of higher quality still is the surface pattern which is planned to have lines or shapes in one motif connect with those in the next so that they run through the design like those in fig. 43. Such an arrangement has good rhythm.

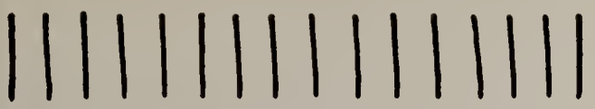
Ornaments may be classed according to the character of the motif used. If the result relies for its appeal upon its design qualities alone, we call it abstract. The shapes themselves have no recognizable connection with known objects. Despite the fact, however, that we do not see shapes which we recognize as trees, flowers, animals or anything else, this type of design may be highly satisfying.

If the design is made up of geometric shapes, and could be drawn with geometrical instruments, we call it geometric. Such designs rely upon clean cut regularity for their appeal. Children like to do them because they get a maximum of effect with a minimum of effort. Because this type of design is mechanical it does not give the lasting satisfaction that the other kinds do.

Designs which obviously have been made from natural forms or from man-made forms may be of two kinds, naturalistic and conventional. The naturalistic design is exactly what the name implies. The elements in it look more or less natural. This type of design is one which has to be very skilfully handled if it is to fit its purpose and be in harmony with the object it adorns.

The conventional design is the type which most of us prefer. Not only does it possess beauty in pattern, but the parts of the pattern have meaning for us.

Teachers are concerned to discover a simple way to show children how to conventionalize a form. The little ones draw everything in a conventional way. The older ones have become so concerned about drawing things to look real that they find it hard to think in any other terms.



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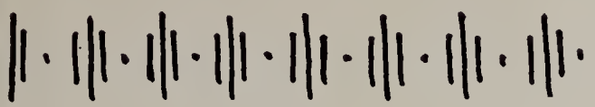

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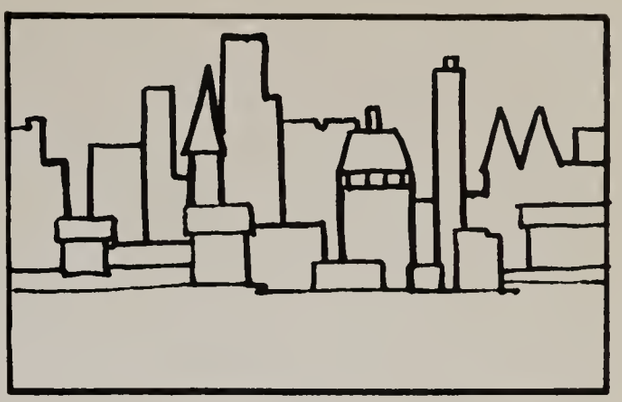

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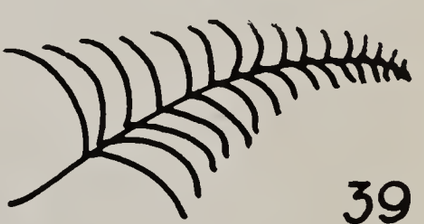

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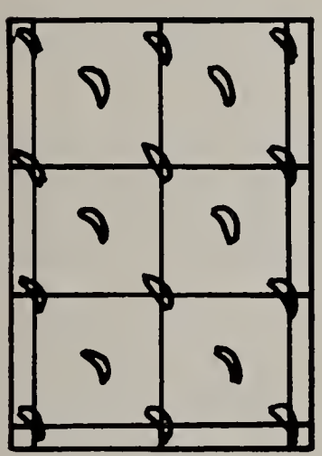

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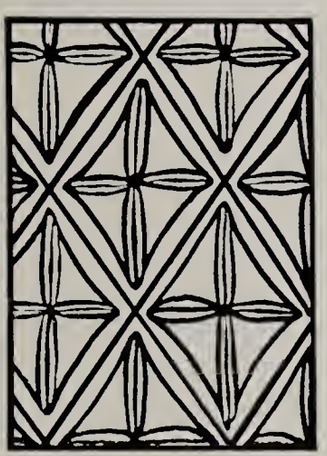

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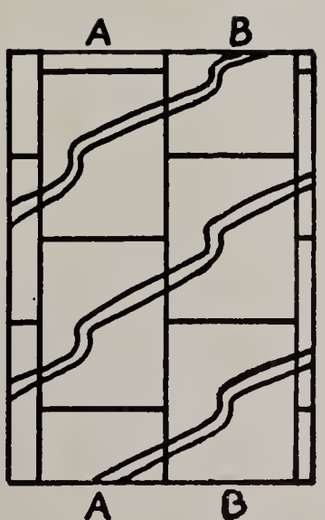

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Suppose we wish to conventionalize a flowering plant of which we have made a realistic drawing as in fig. 44. The shape into which our design is to fit may be chosen for some purpose or we may choose the one which we think the plant suits best. Our choice is the diamond. Going back to the plant we pick out those features which make it possible to tell this particular plant from others. Details are omitted unless they will help us. We work ahead to find how best we can preserve the identity of the plant and yet make a design which will fit and fill the diamond shape. If this diamond shape is to be very noticeable in the finished design our treatment of the plant must harmonize with it. We must feel the influence of the boundary shape on the lines of the design.

The technique of drawing will depend upon the type of flower and must be in harmony with it. A fragile flower should be treated in a delicate way in the design. A bold stocky flower may be handled in a bold stiff way. Beyond this point the making of such a design is similar to any other.

The principles of design and picture composition should be taught incidentally, rather than in definite steps, beginning in the primary class. The following outline may serve as a guide to the teacher.

Primary Grades

(1) At all stages in a child's development we should place emphasis upon originality of thought. Small children have plenty of ideas of their own. The teacher's task is to show them how to solve the problems arising out of their attempted expression of these ideas.

(2) From the beginning of our teaching, let us stress the desirability in a design of fitness to purpose.

(3) Children tell stories of their experiences through illustrations. In such work encourage them to fill their picture spaces adequately but without crowding.

(4) An elementary understanding of balance is possible even for primary pupils. Show them that a lop-sided picture is ill-grown like a lop-sided apple.

(5) Encourage the children to include in their pictures only objects which are in harmony. An example of lack of harmony in idea is found in the nursery rhyme illustration which includes an aeroplane.

(6) Show the necessity for good contrast between a picture and its background.

(7) The children learn what is meant by ornament in making free repeat borders and all-over patterns. Do these in finger paint, with brush and paint, with crayon, or by laying coloured sticks or seeds. In such activities an elementary feeling for rhythm is developed.

Junior Grades

(8) Let the children see that one object in a picture can be emphasized if it is made comparatively large, is placed centrally, and is in strong contrast to its surroundings.

(9) Develop to some degree, at least, the idea of good proportion in sizes of objects relative to each other, and of parts relative to the whole.

(10) Make a beginning in the study of pattern or silhouette. The common paper cut-out posters provide a basis for this study, because the success of their designs depends upon telling outlines.

(11) Through motifs cut from folded paper, show the necessity for variety in shapes and sizes of parts. Apply this information to other forms of design, such as stick prints, or border and all-over designs on squared paper.

Intermediate Grades

(12) Children in intermediate grades can appreciate obvious examples of the use of lines intended to lead the eye through a picture. Let them try to use this information in their own pictures.

(13) At this stage, go more deeply into the study of the principles of balance, both formal and informal, than was done previously.

(14) In designing freely repeated borders and all-over patterns, the children may use unifying lines like those in fig. 43.

(15) Give practice in the design of motifs to fit given shapes. These given shapes may be the geometric units into which paper has been

ruled to guide in the placing of designs, or may be the areas of constructed objects which are to be decorated.

Senior Grades

(16) Show how rhythm is employed in pictures and designs of informal arrangement. An effort should be made to use this knowledge in original work.

(17) By their use of line and colour, children should learn to express feelings such as joy, sorrow, peace, and confusion.

(18) Discuss the relations which should exist between design and material of construction in products of industry such as kitchenware, furniture, and rugs.

(19) Organize the knowledge which has been gained incidentally in the grades, through the study of works of art, and criticism of class work.

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CHAPTER 2.

Colour.

Much classroom time has been spent in the laborious making of colour charts, which have turned out to be very inaccurate after all. Landscapes have been painted in several kinds of colour harmonies, with the name of each duly memorized. Yet this study of colour theory has not made much real difference in the colour choices of our pupils, who have failed, somehow, to apply what they have learned to problems met in daily life. If our study of colour theory is to be effective, it must not be dull. Surely we can devise a way to make it both practical and interesting.

In our study of science we are surprised to learn that rainbow colours are formed when daylight is broken up by refraction. We learn also that we are able to see an object because light is reflected from it to our sensitive eyes. The children are fascinated to learn why one object is blue and another is red. A white object is white because it turns all the light away unbroken. White then is colourless and is called a neutral. A black object absorbs nearly all of the light so that hardly any is reflected. It also sends out no colour and is called a neutral. When white light falls on a red object it is broken up and all colours of the light are absorbed but the red. The red object is so because it will have nothing to do with red light and reflects it. So it is with the other colours.

The mechanism by which our eyes receive a sensation is quite complicated. One scientific theory is that there are two sets of sensitive receivers called rods and cones. The rods tell us which things are dark and which light. The cones are divided into two kinds, one kind which tells us the blues and yellows, the other kind the reds and greens. If a person is colour blind it is more often the last set, sensitive to red and green, which is defective.

Occasionally there may be children in our classes who appear to be partially or wholly colour blind. We should not jump to this conclusion too hastily nor accept it without professional confirmation. But if it is so we cannot hope to improve matters. These children are able to work only in black and white.

The matter of colour preferences has puzzled teachers as it has others for a long while. What colours do people like best and what combinations are really found pleasing by most? Some

scientific investigators have made quite extensive studies to answer these and other questions. Lack of conclusive results would seem to indicate that we have not yet found a satisfactory solution. Apparently no colours are universally preferred, nor are any particular combinations of colours. It appears that our preferences come from our associations with the colours. Certainly too little is really known to warrant any sweeping statements at this point.

In all of our colour work we should encourage the use of good materials. Children try to paint their pictures with extremely cheap water colours whose cakes yield only a sickly colour after diligent scrubbing. A fifty-cent box containing about eight colours is much more satisfactory to the child and the teacher.

Some teachers, believing that there is virtue in young children having to mix all the secondary colours, insist that they begin with a small range and learn to use red, blue, yellow, and black first of all. The children are disappointed at the dull mixtures which result and are annoyed at the extra time taken in mixing when they are keen to be painting. One might as well tie their hands and ask them to paint.

There are at least three theories of colour now taught in our schools and each has a devout following. Whichever a teacher uses, the children's paint boxes should be chosen to suit. Paint manufacturers sell boxes of colours which are standardized according to the three-colour or Prang system, the Munsell, and the Ostwald.

Before describing each of these systems briefly it might be well to explain the three qualities of colour. Just as a box has three dimensions, length, width and height, so a colour has **hue, value** and **intensity or chroma.** Two colours may differ from each other in these three ways.

When we think of the difference between red and orange we are thinking of a difference in **hue.** In the same way orange and green are different, or blue and purple. In all of the colour theories the colours are arranged for practical use in a circle on a chart. The ones which are considered elementary are placed at even intervals all around. These are the primaries. Then a second set of hues goes in the spaces between. These are the secondaries and are made by mixing equal quantities of adjacent pairs of primaries. For example take the primaries blue and yellow. The secondary hue in the space between is green. Now yellow and green are side by side and by mixing equal amounts of them together we get a new hue which is like neither. It is yellow-green. If we mix yellow and yellow-green now we shall get a hue between the two. So we might continue mixing more hues all the way around the circle until our eyes could not distinguish one from the next. Then our limit would be reached. Practically such a chart would be too big to use so we put on only a few hues.

When we think of the difference between a light green and a dark green we are thinking of a difference in **value.** Paint a patch of green directly from the colour box. This is called the normal colour. Mix a little more water or white paint in it and the painted sample will be lighter. Repeat this several times until the colour is nearly white. We have several values of green and if these are placed in a row as we make them we have a staircase from green up to white. These are called tints of green. It does not matter whether water or white paint is used to lighten a hue except that the paint will work differently. With water it remains clear and transparent. With white paint it becomes thick and opaque. The two kinds had better not be used in the same picture.

We may find more steps on the green staircase leading down from the standard green. Add a bit of black to the green, or merely paint it more thickly and we get a darker value of green. Repeat this until the result is nearly black. We are making shades of green. Now our staircase is complete and is called a value scale. Of course we might make a large number of steps in the scale or only a few. We could also make a scale for any one of the hues. Imagine how many patches of paint would be needed to make all the possible values of all the possible hues! Is it surprising that manufacturers are constantly finding new colours to delight us?

Since values have nothing to do with hues it is possible to have values in connection with the

neutrals, white and black. White is the lightest possible value, and black the darkest possible. Mix them half and half, and we get middle gray. This is placed half way up the staircase. Then by further mixing we may make as many steps above and below it as we choose. This is a neutral value scale.

Bright red and dull red differ in **intensity, chroma, strength or grayness.** These terms here have the same meaning. Paint a patch of standard red. Then with some of this same red mix a little of the colour which is opposite it on the colour wheel and which is called its complementary. This dulls the colour a little. The same thing may be accomplished by mixing a little middle gray with it. Repeat this process several times, painting the patches in a row again. Presently we get a colour which is scarcely recognized as red. It is quite gray or neutral, or we say, its intensity is very low. The next step will be a neutral gray. Now we have an intensity scale, stretching from the brightest possible red to the neutral gray. So we might neutralize any other hue using as many steps as we choose.

While it does little good to make large charts and scales as explained above, the children should experiment with their colours and make rough ones on scrap paper. Five minutes might be sufficient for making a scale in this way. Without actual experiment the words of the teacher are meaningless.

The oldest colour theory which we use is the three-colour, six-colour or Prang. It retains the favour of many teachers because of its simplicity. There are three primaries, red, yellow and blue. The secondaries are orange, green and violet. Also a third set of intermediate hues is used, called the tertiaries. They are, as we may expect, yellow-green, blue-green, blue-violet, red-violet, red-orange and yellow-orange. This gives us the circle of twelve hues shown in fig. 46. Since a mixture of opposite or complementary hues gives us neutral, gray is put in the centre of the circle.

This three-colour theory is based on the well known fact that red, yellow and blue paint cannot be mixed from other colours but that all other colours may be mixed from them. Mixing of colours always grays them to some extent and so much mixing in this system leads to dirty colours which the children can scarcely be persuaded to use. Scientists find that the complementaries of this system are not true ones. The neutral grays turn out to be rather reddish.

The Munsell system became popular from about 1907 on. Mr. A. H. Munsell experimented with the colours of light to be found in the spectrum. These he accepted as the standard colours. He claimed that there are five primaries—red, yellow, green, blue and purple. Hence this is often known as the five-colour theory. These primaries with the addition of five secondaries make the Munsell colour wheel, fig. 47.

A solid form was used to help us gain a clear mental image of the three-dimensional character of colours. This solid was a sphere whose use is more easily understood if we liken it to the earth. In the diagram, fig. 48, we see the circle of hues as a band around the equator.

The neutral scale is a pole through the centre like the axis of the earth. White is represented by a knob at the north pole and black by a knob at the south pole. The axis is divided into nine divisions, nine steps of the gray value scale. Since the value scales of the colours run from black, through the normal colours to white, they are represented by the strips between lines of longitude. These are all divided into nine steps. Not nearly all of these can be shown on the diagram, so green is taken as the example.

The intensity scales may be pictured as sectors starting with the neutral gray in the middle of the sphere and coming to the normal hues on the equator.

There are two other points which must be added before the explanation is complete. All through we have been presupposing that each of the normal colours occupies a middle place on its value scale. Only one does, green. Obviously purple is a much darker colour than yellow so it should be placed low on the value scale and yellow should be high. The respective places of the primary colours are shown in fig. 49. Then a value scale for yellow should show the normal colour placed in the eighth space from

the bottom. Blue would be in the third space, and so on.

The other point it is necessary to mention is the fact that all of the normal colours do not occupy the same place in respect to intensity. Some lie on the circumference of the circle while others, naturally more intense, project beyond it. We know that yellow and red have far more carrying power than blue or purple. Their relative intensities are represented by the lateral steps in fig. 49.

For practical teaching purposes, however, these points have no great value for children. If they realize that certain colours are naturally lighter than others and that certain ones are naturally brighter than others, that is all they require.

Many teachers prefer the Munsell system because the grays formed by the mixture of complementaries are much nearer to actual neutrals than in the Prang system. This is because the colour wheel is better balanced. Colours which are called complementaries are more truthfully named.

Munsell worked out an elaborate colour nomenclature but it was never adopted by industry and people in general. It was a big step in the right direction, however, for it was the first real attempt at the standardization of colours.

The Munsell system has one drawback, many feel, in that working with coloured light is very different from working with coloured surfaces. We are concerned almost entirely with coloured surfaces in our daily lives.

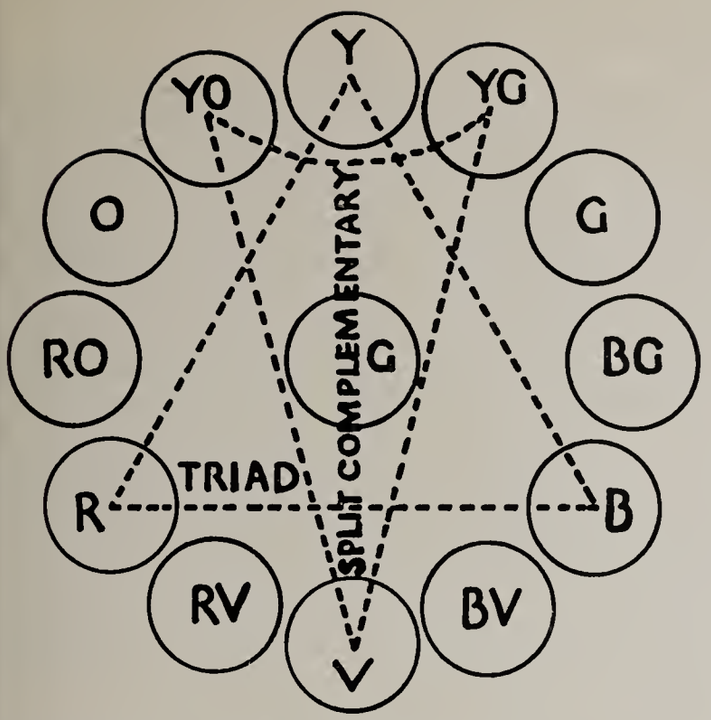
Many schools have very recently changed to a newer system, that of Dr. Ostwald, who died in 1932. He made a scientific study of colour as Munsell did but he approached the subject in a different way. He studied the sensations produced in our eyes by coloured surfaces. As explained before, he claimed that our eyes are sensitive to blue, yellow, red and green primarily. With these he gives us the four hues coming between pairs of these so we have eight primaries, yellow, orange, red, purple, blue, turquoise, seagreen and leafgreen. These hues comprise the simplest colour circle, fig. 50, but may be supplemented by sixteen more to make a complete colour circle of twenty-four hues.

All colours may be divided into three classes—(1) the neutrals, (2) the hues or "full colours", which, when pure, have no black or white in them at all, and (3) the mixed colours. These are mixtures of hues with black or white or black and white in any proportions. Hues mixed with black or white will give us all the possible values, while those mixed with black and white will give us all the possible grayed colours. A colour solid is used in this theory as in the Munsell, but here it is rather one cone inverted on another. The idea is the same except that Dr. Ostwald has worked out a mathematically exact system for standardizing colours which are set at fixed intervals. This corresponds to the tuning of a piano in which the notes must be at the proper intervals in order that harmony may result.

The usual colour harmonies may be divided into two types (1) those of like colours and (2) those of unlike colours.

The harmonies of like colours include (1) **the monochromatic harmony.** From the value scale of neutral or of a hue two or more steps are chosen. A tint and a shade of the same blue might be chosen, or a light, middle and dark red. In the latter case where there are three tones or more, the intervals between them should be equal. (2) **the analagous harmony.** These are colours side by side on the colour wheel which have a common constituent. Usually three colours are used such as yellow, yellow-green and green from the Munsell chart. The colours chosen have the common element yellow, since it is a component part of green. A useful type of colour selector is shown on this chart and on the others by dotted lines.

The harmonies of unlike colours include (1) **complementaries.** These are two colours directly opposite each other on the colour wheel; they give the greatest possible contrast of hue. Obviously the complementaries obtained depend on the colour theory used. The complement of red in the Prang system is green, in the Munsell system it is blue-green and in the



PRANG OR THREE-COLOUR CHART

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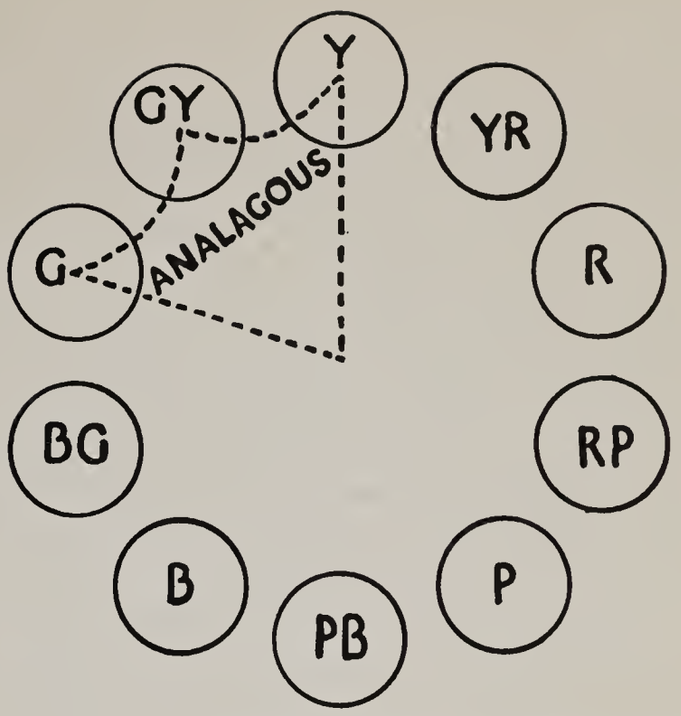

MUNSELL CHART

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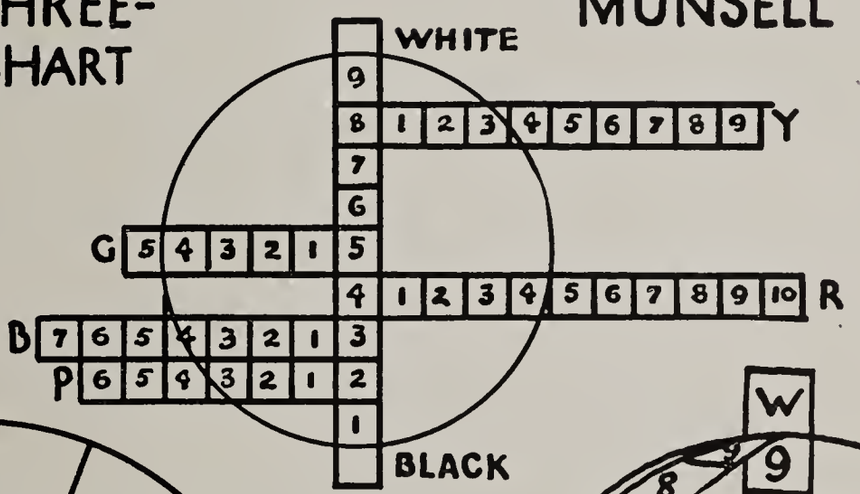

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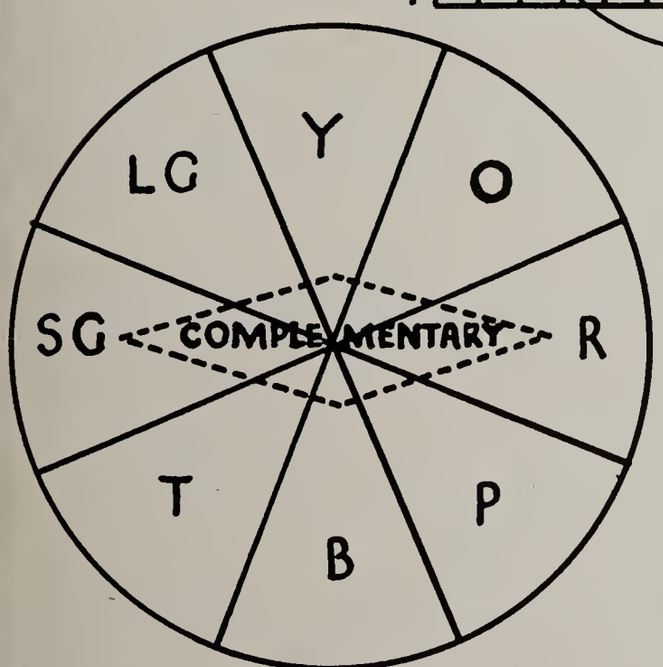

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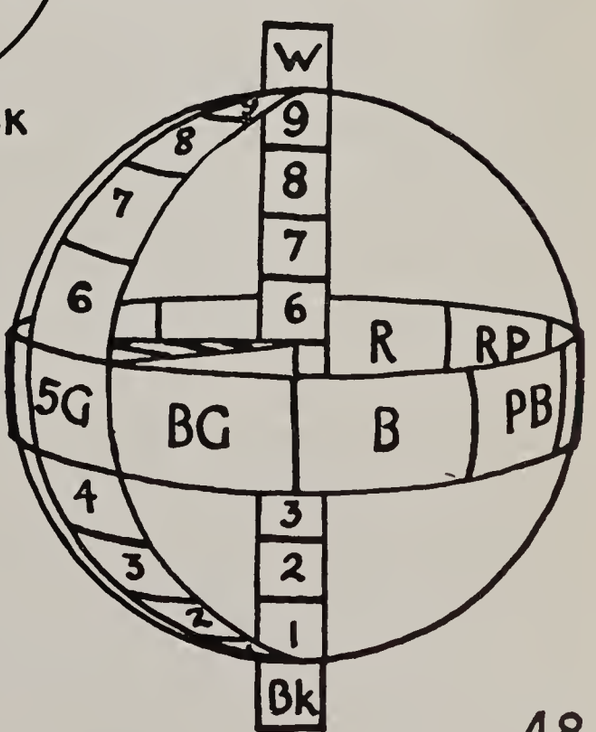
SIMPLE OSTWALD CHART



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MUNSELL COLOUR SOLID

Ostwald seagreen, as shown by the selector in dotted lines. (2) **split complementaries.** Reject one colour of a complementary pair and put in its place the two which are next to it, one on each side. This gives three colours with which to work. From the Prang chart, violet with yellow-orange and yellow-green would be an example. Again the selector in dotted lines will point them out. (3) **triad.** Three colours which are equidistant from each other on the chart may be used. Red, yellow and blue would be an example from the Prang chart as shown by the selector. In the Munsell the number of colours is not divisible by three so that we could not use the triad. In the large Ostwald circle we may select a colour harmony by making even divisions in any way, dividing into two, three, four, six or eight parts. (4) **a colour with one or more neutrals.** For example a white dress is trimmed with green, a gray suit has a red ornament, or black is set off with orange.

Occasionally one colour harmony is combined with another. Thus with a complementary pair we may use extra values of one of them. In this case the scheme will be dominated by that colour.

Improperly used, any of these colour harmony schemes may produce unpleasant results. This is particularly true in the case of the complementaries and triads, and some cautions may prove helpful. Children like to use all of the colours straight as they come from the paint box. If they are not to be used straight from the box what ought we to do with them? Here are several suggestions:

(1) Use no two colours together which have the same or nearly the same value. If one is to be used at middle value, make one of the other colours considerably darker and a third one as much lighter. It is a common fault in painting to find the young artist so concerned over hues that he forgets to notice differences in value even though they are sometimes very great.

(2) Where there is much difference in the areas of colours to be used, the larger area should have a duller colour than the small. The greater the difference in area, the greater should be the difference in colour strength. For this reason a gray dress relieved only by a collar of bright and lighter green is very effective.

(3) Colours which seem none too satisfactory may be much improved by separating them with a neutral, e.g. black lines may be used around parts of a design. It will also be found that brilliant colours which are unsatisfactory by themselves may be used together effectively on a neutral or nearly neutral background.

(4) Colours are divided into two groups, warm and cold. With a cosy fire we usually associate all the reds and yellows. That means that one half of the colour circle is warm. The blues and greens of the cool half we associate with a cool shady spot, beside a lake perhaps. The dividing line goes through yellow and violet or purple on the charts.

In a colour harmony we may find that most of our colours are either warm or cool. This leads to monotony which may be relieved by introducing into the warm scheme a note of cool colour, and into the cool a little warm colour.

(5) In another way too we must balance our colours. It would not do to have a colour appear in a large patch on one wall and not be repeated anywhere else in the room. We should carry each colour through the whole, varying its amount and quality of course.

If one were to take a well-designed fabric or a painting, and trace off the spots of one colour to be found in it, leaving all else blank, we would find that these colour patches in themselves would make an interesting pattern of shapes.

(6) Colours are certain to be harmonious if they have a common constituent. If we were to mix a little gray in each of several colours used it would harmonize them. They would also be harmonized if we mixed in each a little blue, or a little of any other colour. Carried to extremes, however, this method may produce dull monotonous results.

It is interesting to note that painters choose their colour combinations to express feeling. For example, if they wish to create an air of peace and dignity, dull colours, mainly cool, are used. Think of Whistler's portrait of his mother.

If the artist wishes to create an exhilarating

effect he chooses hot, brilliant colours. Warm and bright colours are exciting, even irritating, and push strongly forward. Cool and dull colours suggest serenity, but their effect may be depressing and they retire to the back of the picture. Posters are painted in bright colours to arrest attention. A room is decorated in soft colours to create a restful, livable atmosphere. The colourist must select his colours with care to express what he has in mind.

The following suggestions for the teaching of colour are intended to show the progression of a child's learning in this subject so that he may develop good colour sense.

All Grades

(1) Let us do the best we can with our schoolrooms. The colours of walls and ceiling should be light and not intense. A cream or buff of some kind is justly popular. The necessary contrasting relief is provided by the bright spots of colour in pictures, curtains, room decorations, and in displays of the children's work.

Primary Grades

(2) Teach primary children the main colours and their names.

(3) Then let the pupils learn to recognize colour families. (Example: All the reds of any and every kind belong together.)

(4) Teach children the difference between a light and dark red, blue, etc. Children find that crayons give light colours when lightly used, and darker colours when heavily used.

(5) Let the children see that light colours will show on dark paper, but that dark colours will not. With light paper the opposite is true.

(6) Encourage pupils to choose colour combinations when paper cutting. Too often, teachers do the choosing, for fear of getting poor results. Using the coloured papers usually provided for this work, children soon learn that blue and yellow look better than blue and green, for example.

The practice in choosing helps to develop their judgment in colour.

Junior Grades

(7) Encourage children in Grade IV to distinguish a bright colour from a dull one, if the distinction is not too subtle.

(8) Give children in Grades III and IV a little colour arithmetic. They will be pleased with the results obtained by mixing pairs of colours. Blue is added to yellow, etc. Layers of crayon may be used, but mixtures of opaque or transparent water colours are much more satisfactory. Children are amazed and delighted when they first try these combinations.

(9) Teach pupils how to lighten or darken a colour, when water colours are introduced.

(10) Continue practice in the choice of colour combinations. Light and comparatively dark colours look well together, and dull, uninteresting brown, buff, or gray paper may look very well indeed when relieved by a bright patch of colour. With practice, pupils learn to use variety in values and colour strengths.

Intermediate Grades

(11) Introduce simple colour balance. In the intermediate grades, pupils can appreciate the law of areas, which simply stated is, "The stronger a colour, the less we use of it."

(12) Let the children note that colours should be carried throughout a picture or design.

(13) Distinguish between warm and cool colours. These are simple to understand, even without the use of the colour chart to define the halves of the circle. The children will see how a picture is made to look very hot or freezing cold.

(14) Teach the children how to gray a colour. Pupils may learn to add gray to a colour by the end of Grade IV, and they should make occasional use of this principle in later grades.

(15) Lead pupils to see that close colours in a landscape appear brighter than far colours, even though we know them to be the same. Have them observe a red wagon, for example, as it comes gradually nearer. They will see that it is hard to distinguish colours at a distance, that dark colours look lighter, and very light colours look darker, as distance increases.

Senior Grades

(16) Awaken interest in colour combination in dress and interior decoration. Girls and boys in senior classes feel the need of guidance in these matters.

(17) Suggest the collection of examples of attractive colour combinations.

(18) Direct attention in picture study to the artist's use of colour to convey an emotion or to bring out the character of an individual, who may be dignified, cool, serene, friendly, lively, etc.

(19) Organize the practical information gained by senior pupils with regard to colour by reference to the colour circle. The amount of formal colour theory studied will depend upon the curriculum of the province, but pupils will find the subject illuminating if their interest is not killed by too much technical drudgery.

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CHAPTER 3

Perspective

Perspective is defined as the art of representing objects on a flat surface as they appear to the eye. The shapes as seen may be quite different from the actual shapes. A road has the same width throughout its length but does not appear so to the eye of the traveller on it. Using the word perspective in its broad sense, we include in it all the ways we know of showing depth or third dimension in a picture.

Perspective has lost its former place in the work of the art class. It used to be considered necessary to practise its principles in the drawing of all manner of objects, rectangular and cylindrical. Although making the drawings "come right" brought a thrill to some children, many others were hopelessly mixed in the maze of lines. Even when successful, the whole treatment was too cumbersome to be useful in ordinary drawing.

There is no reason why we should not be able to give our pupils a good working knowledge of simple perspective without undue strain on them or us. Our perspective drawing should be freehand, although mechanical work is helpful when learning the rules. The use of freehand perspective implies that the young artist is able to draw objects to look right without establishing horizon line and vanishing points. He can do this because he understands the subject well enough to visualize them clearly. No person can hope to draw without understanding simple perspective.

Suppose we trace the steps which children may take in learning perspective.

Primary Grades

In the primary class they learn to draw objects such as cups, pails, flower pots and houses. These are drawn from the straight side or straight front view. Children naturally draw in this flat two-dimensional fashion.

(1) Later on they may be taught to put one object partly behind another one.

(2) They learn to use a skyline in their pictures and, sensibly enough, usually place it rather near the bottom of the picture so that the objects in the picture silhouette against the sky. This is reasonable because from the small child's point of view, things must appear so. Let us crouch down to his height if we would compare his view with our own.

It is interesting to note that primary teachers often find a pupil painting the blue colour of the sky only overhead. A gap is left and the ground is painted at the bottom. The child ex-

plains that there is air between. Is this so unreasonable? Apparently the pale gray-blue off toward the horizon does not impress him.

Junior Grades

(3) Children in Grade II or III can appreciate the fact that a near object appears larger than one far off. To show this, measure two children to make sure that their heights are the same. Ask one to stand near the class and the other at a convenient distance. Ask the children to place their hands in the air along the top of the near child's head as it appears from where they sit. Then have them move their hands over to rest on the head of the other. They find that their hands are lowered. The second boy's head would go lower down in the picture. Then they may place their hands at the position of the near boy's feet in the same way, later moving their hands to the position of the other boy's feet. Their hands are raised. So the far boy's feet will be higher in the picture. Pupils may mention other pairs of objects which appear in the same way, such as the trees in fig. 51.

(4) To make the floor, street, road or river lie down flat is the next step. The children should stand in the middle of a road, street or hall. Ask them to trace in the air with their forefingers the two lines along the edge as they go to the horizon. Ask them where they moved their arms as they did it. After two or three attempts, possibly, they will say that their arms came gradually up and also gradually together to a point or nearly so. Put the horizon line in a drawing and let them draw the receding lines. Ask them to suggest other places where they might see the same peculiar thing. They usually do this quite easily. Later the lines may be drawn curved for rivers and roads as in fig. 51.

(5) In Grade IV we might do the same with telephone wires or the ceiling of the hall. The pupils will find that the lines come down and together to a point. Thus they learn what to do with receding lines on the ground and overhead. They should realize that we look down on things below our horizon or eye level line and up at things above this line.

Intermediate Grades

(6) In the intermediate grades at least the children should know a little about the perspective of the circle. Instead of making a cup with a straight line for the top they should see that it is an oval. They see that the bottom is an oval also but the back half is covered up. They learn easily that the further the cup is below their eyes or above them, the more curved the oval is. At this stage let them draw the back and front of the oval the same, and also the top and bottom ovals of an object the same. The cup in fig. 52 shows all that we expect in these grades.

(7) Let the children watch objects moving down the street or road, or moving toward them. They discover through questions that we cannot see far objects very clearly. For example, far away we see just a grayish speck. As it comes nearer we can make out whether it is a car, a wagon, or someone on horseback. As it comes still nearer we see that it is a red wagon drawn by a horse with a man driving. Close up we make out details of the horse, of the wagon and of the man. The children can use this information in their pictures. The same rules hold for all objects, such as the trees and telephone poles in fig. 51. Colours are grayer far off and detail is lost. This would be a good time to teach the children how to gray their colours.

(8) A scene in water colours would be a good lesson at this point. One might ask them to use only sky and sea at first. The sky, they tell us, is very blue overhead and is lighter and duller at the horizon. The sea is duller and grayer at the same line. After trying this scene the children might do another with sky and a green meadow. The same thing is true of the green colour as of the blue.

(9) The children learn that the colours found in the distance are blues and purples. These colours are retiring. Green is a middle colour in this respect but the yellows and reds come strongly forward.

(10) It might be interesting and helpful to the children to learn that one can make the background of a landscape look far off by washing over the dry colours with light gray

transparent colour. If colours have been painted too strongly the first time one might do this. Another way is to wet the dry colours in the background and try to wash some of them off.

Senior Grades

(11) In the senior classes the children learn a little more about drawing cylindrical objects such as silos, oil tanks, and logs. They may use two diameters of the circle in order to draw the ellipse well. The method of drawing is shown in figs. 53 and 54. It should be sufficiently accurate if the diameters are both bisected although in reality the front half of the ellipse is a trifle more curved than the back half because it is nearer to the eye.

When the bottom of a cylindrical object is considerably farther from our eye level than the top, we would expect to find a difference in the curve of the two ellipses. And so we do. The one which is farthest from the eye level is more rounded. The series of circles in fig. 54 illustrates this point. It should be simple for the children to draw an object partly above the eye level and partly below it. The ellipse may also be drawn standing up on its end as in fig. 55 for a log. This is no harder to do.

(12) The next step might be the use of parallel perspective. The children understand from their arithmetic that objects have three dimensions, length, width and height. It should not be hard to show them that the edges are lines running in three directions. In a rectangular block, four edges are lines running lengthwise, four edges are lines running widthwise and four edges are lines running upward. These should be thought of as families or sets of lines. They are alike in direction or parallel and act alike in perspective.

The rectangular block sits on a flat surface and may face us in two ways. In one case, a whole side or end is toward us, like the front of the house in fig. 56. Think of its top and bottom edges as being parallel to a line across our shoulders or across our eyes. Then we say the lines are parallel to us. For this reason this is called parallel perspective. In drawing, the set of lines to which these belong is not changed at all. "Lines parallel to us remain the same." They, at least, will always be easy to draw.

The vertical set of lines is not changed at all either. "Vertical lines remain vertical" is the rule.

There remains the set of lines which is seen to be receding. They do change in perspective just as the edges of the road did in the junior work. They converge toward a point on the horizon line directly in front of us. This point is the vanishing point. Then we draw this receding set of lines so that, if produced, they would meet at the vanishing point. Except for the points mentioned the block is drawn just as the children would have done it from observation. Lengths are cut off where it seems appropriate.

The block used in this example may of course be any rectangular object which the children have discovered that they need to draw, such as the house in fig. 56.

(13) If the rectangular block rests on a flat surface it may have one corner facing us. Then we must draw it in angular perspective. It is given this name because an angle faces us. This time the three sets of lines are not all acting as before. The vertical ones alone remain unchanged. Where there was one set of receding lines before, there now are two. One set runs off to the left, the other to the right and both will be altered.

We draw the corner line which faces us first. Then we draw the bottom edges as they appear to go to left and right. These are continued on to touch the eye level line. The two points where they meet this line are the vanishing points this time. One will be away at the left of the paper, the other away at the right. Starting with the front corner, we draw the top lines of the two faces so that they would touch their vanishing points if produced. We draw the outside corners of the block where they look right. Remembering that all the lines running left go to the same vanishing point, we draw in the back edge which runs to the left. In the same way is drawn the back edge which runs to the right. If lines are above the eye level they will run down to the vanishing points.

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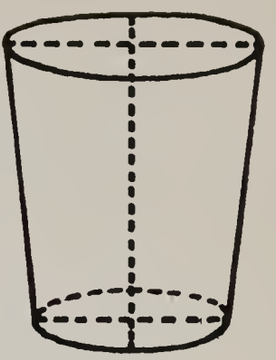

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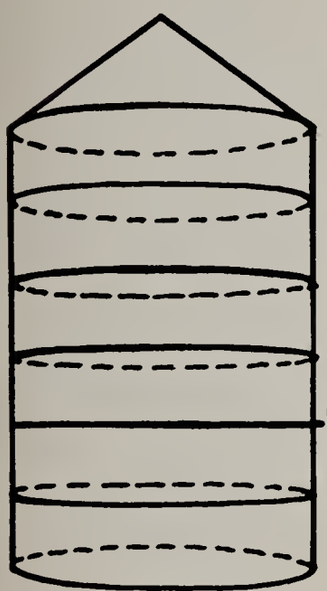

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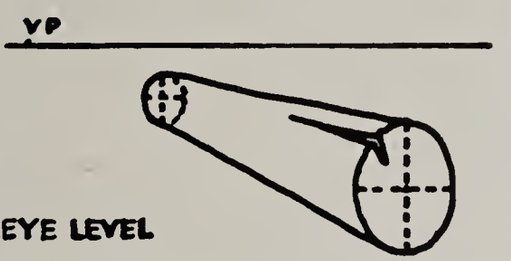

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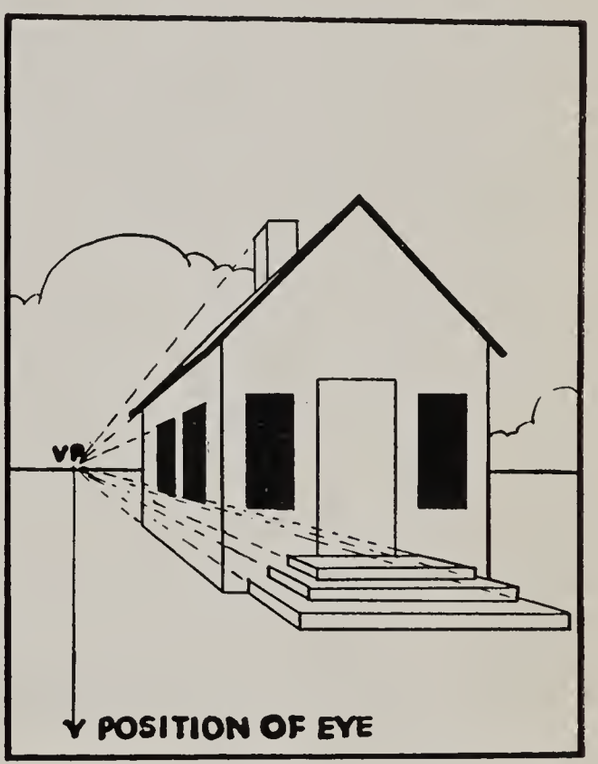

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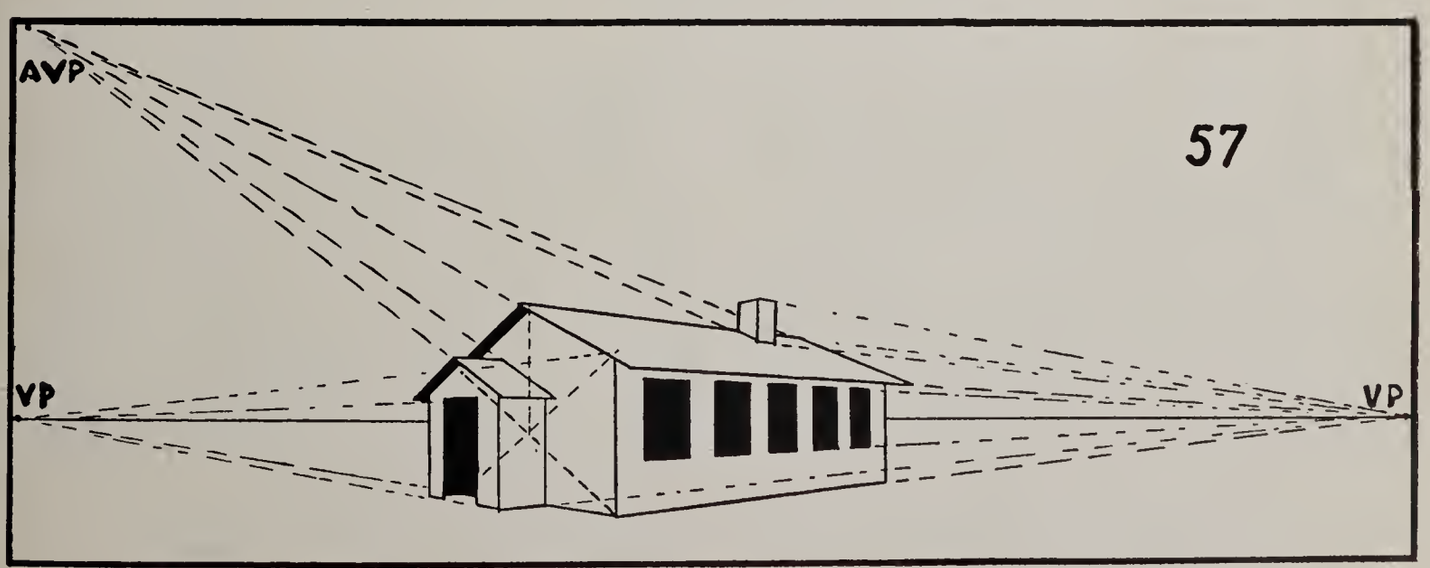

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(14) If this block were to be a house we would need a roof. An easy way to get it on straight is to draw it as in fig. 57. We decide which is the end of the building and draw diagonal lines from corner to corner of this end. Next we draw a line straight up from their intersection. The tip of the roof will be somewhere on this line because it is directly above the middle of the end wall.

To get the slant of the roof we draw the closest edge to look right, then draw the other by simply joining the corner of the house to the tip of the roof. The ridge pole is parallel to other lines running lengthwise of the house and so goes to the same vanishing point. The far end of the roof is the big problem.

We continue some distance the first slanting roof line which we drew. Then we draw a perpendicular line from the vanishing point on the horizon line on that side. Where the two meet is an accidental vanishing point to which the back edge of the roof also is drawn. Since the side of the roof is a slanting surface it has a vanishing point of its own. Now the house is complete except for details. In doors, windows, chimneys, etc., the lines behave in the same way as the main lines of the building.

(15) If a row of windows were put in the side of this house it would be important to know that the farther the windows are away the narrower they seem. The spaces between windows also appear to get narrower. This rule applies in all similar cases such as the line of telephone poles, in fig. 51.

(16) If the children have occasion to draw the interior of a room, the eye level line should be drawn at a height which would appear reasonable comparing the child's height with the height of doors, windows, and furniture. Part of the picture will be above and part below, which is by far the most usual view of any large object.

(17) The children might like to try aeroplane or worm's eye views by way of experiment. These are occasionally used in advertising because they are so striking and unusual. It is simply a matter of placing the eye level lines very high and very low respectively.

(18) Light and shade give third dimension to objects and may be considered akin to perspective.

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CHAPTER 4.

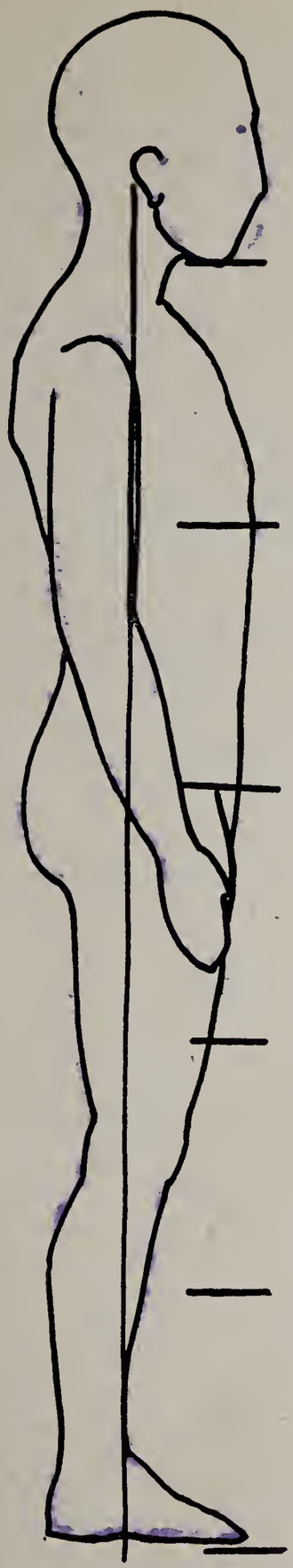
Figure Drawing.

So many teachers have asked for help in figure drawing that a few pointers on general proportions and action are included here.

It is important for children to realize that human figures are made with a bone framework covered more or less with muscle. These bones have a fixed length, and no amount of twisting and turning in action will change those lengths. The body is capable of bending only at certain places, the joints. It may seem to be a waste of time to mention these commonplace things but experience shows that many children miss them in their drawing.

The proportions of an adult figure may be roughly stated using the head's length as the unit. There are three head's lengths from the chin to the joint of the leg and the body, and there are about three and a half more head's lengths to the bottom of the feet. The elbow comes at the waist, the tips of the outstretched fingers come about half-way down the thighs. The arms and legs in a man's body are slightly longer than those in a woman. The widest part in a man's body is across the shoulders. In a woman the hips are usually widest.

For a child of twelve one will find two head's



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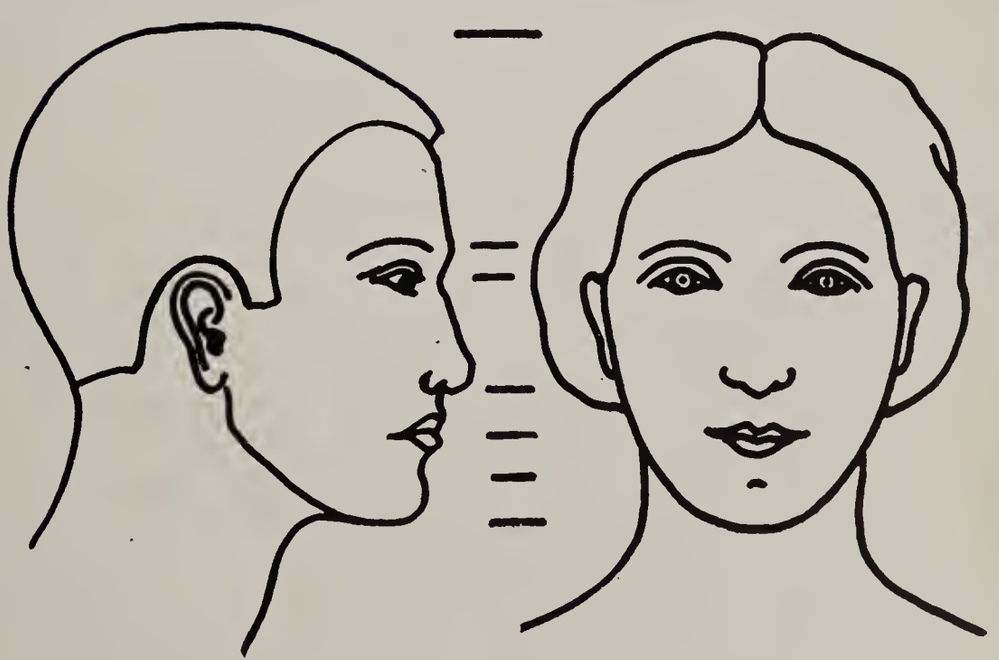

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lengths from the chin to the top of the hip bone or slightly lower, and three more to the feet, making about six head's lengths in all. A small child will be two head's lengths from chin to seat and two more to the ankles. A child's arms and legs are much shorter in proportion to his head than are an adult's. The width of shoulders and hips will also be about equal in children.

To make a figure look older then, elongate the body and limbs in proportion to the head. For a man elongate the limbs more than for a woman, and broaden the shoulders. A man's figure is also much more angular.

To make a figure look younger, shorten the legs and arms greatly, and the body too, to a smaller degree. Children's figures are chubby when they are little and softly rounded later.

In the profile view of any figure the same lengths of course will be found, but there is one point to which the pupils' attention should be drawn. Children usually draw figures perfectly straight up and down like poles. This is wrong. By extending a pencil to arm's length, closing one eye and laying the pencil along the direction of parts of the body the truth will readily be seen. The neck slants decidedly back, the torso slopes forward to the bottom of the ribs, and from there to the ankles the whole body slopes backward. A straight line dropped from behind the ear will pass just in front of the shoulder joint, through the knee joint and through the main arch of the foot. The arm will be found to curve forward so much that the hands naturally rest on the front of the thighs. Fig. 58 shows these points.

In fig. 58 may also be seen a simple way to begin a drawing from a posed model. Let us remember that it is a definite saving of time and disappointment to "block in" the drawing. A vertical line in the middle might come first. Then we make comparative measurements, first with the eye alone and then with pencil or ruler held at full arm's length and with one eye closed. We divide the space on the drawing, then block in the parts to get size and position. All details are left out at this stage, which is illustrated in fig. 58.

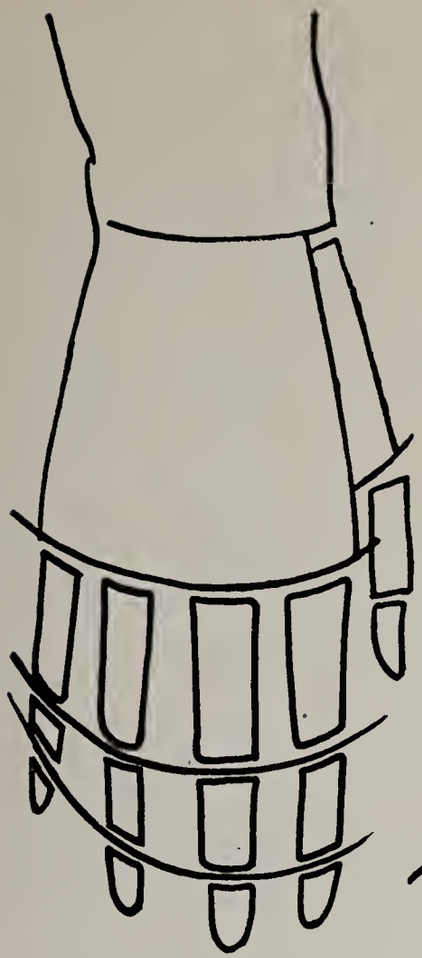
When drawing figures in action rules of proportion are not always easy to apply, and action lines will be found useful. Action lines may be imagined as single lines drawn in the middle of parts of the body. They show direction and length of parts. When the action lines are drawn, comparative measurements are made and the body blocked in as in fig. 59.

Older children may find little figures of sticks or pipe cleaners a help to memory in action drawing. They may use match sticks or toothpicks cut, or pipe cleaners bent, into lengths comparable to the lengths of parts of the body, e.g. a whole stick for the torso, a half stick for each upper leg and another for each lower leg, slightly less than a half stick for each upper and lower arm and a piece of paper for the head. Tiny sticks may be used for hands and feet, with a half stick across the shoulders and another for the hips. As these lie on the desk they are arranged to express action. The children draw their positions, then thicken the parts and draw the costume.

If so many short pieces seem too clumsy to handle, one might try sticking them together with bits of plasticine. This will allow action in any position.

A little perspective must be brought into the study of figure actions. The apparent shortening of parts cannot be understood without it. A ruler, pencil or stick will show this point. Let us suppose that it represents the action line in the upper leg. Hold it in a vertical position. The figure is imagined to be standing up straight and we can see exactly how long this part of the leg is. Now we move it as though the person were raising the knee. It apparently shortens and shortens until we can see only the end of it. That is exactly what happens in the appearance of the upper leg. We try the same experiment with other actions. It is a simple matter to draw this stick in its various positions. Then the parts of the body should not be so difficult since they are merely thicker cylindrical sticks. In fig. 59 the action lines are drawn and the foreshortening (perspective) in one arm and upper legs is shown.

Careful planning is absolutely essential to good drawing and should be done in all grades. The slowest child should do this in ten minutes.



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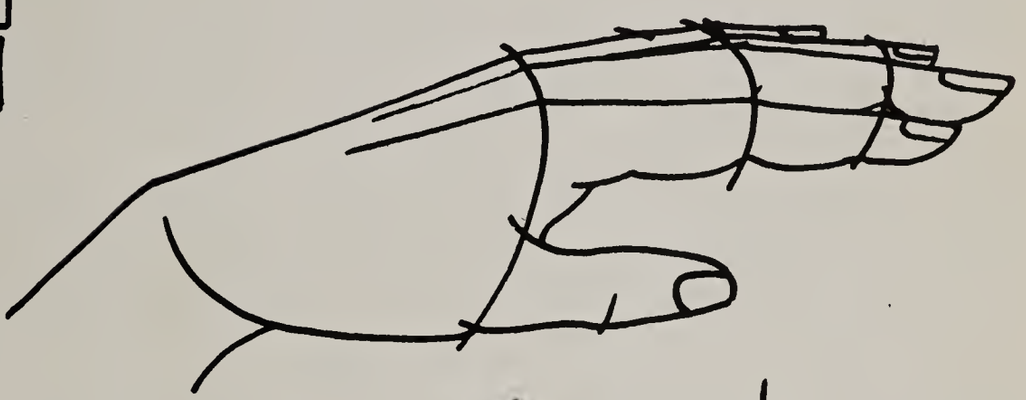

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The next step is to draw carefully the parts of the body and clothing. The features of the face should be drawn at this stage too, because they are small details after all.

In figs. 60 for profile view and 61 for front view are shown simple ways of placing features correctly on the head. The length of the head from the top of the cranium to the chin is divided in half. This line marks the position of the eyeballs. We mark the position of the bone of the eyebrow by guess. From this bone to the chin, we divide in half to get the position of the tip of the nose. From there to the chin, if divided into three parts, the upper division gives the line of the lips and the lower one the crease in the chin. The tops of the ears are about even with the eyes and the bottoms with the tip of the nose. The curve of the back of the head is much higher than the chin. See fig. 60. When drawing a front view the eyes are the width of an eye apart.

Although you may feel that these proportions would be greatly changed in different heads there is really surprisingly little variation in the bony structure. Differences occur in the soft fleshy coverings. After the construction lines are properly drawn the facial peculiarities and expression may be shown. Some details of features are given in figs. 60 and 61.

Hands may be simply drawn by the block method. The palm is widest just below the fingers. It may be represented by a shape as shown in fig. 62. The thumb is made up of three cylindrical sections decreasing in length to the tip. The lowest one is really part of the palm but should usually be drawn separately because it is placed almost in front of the first finger rather than beside it. The fingers all have three sections which decrease in length toward the tips. The fingers vary in length, the second being regularly the longest and the fourth the shortest. We must remember that the thumb does not reach even to the first joint of the first finger.

When drawing the hand let us put in the blocks first, keeping in mind that perspective changes their apparent length if they are at an angle to us. After this is done, we draw the details. Figs. 63 and 64 show this method applied.

Feet are easier to draw than hands because movement is more restricted. In figs. 65 and 66 an attempt is made to show their structure. The inner ankle bone is higher than the outer. As in the hand the bones of the main arch flare out somewhat toward the toes. The toes have the same number of joints as the fingers have, but they are much closer together. Because there is comparatively little movement in the toes it is usually enough to take all parts of each toe together in drawing.

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CHAPTER 5.

Lettering.

Children frequently spend a great deal of time and energy on a greeting card or poster in order that the picture may be well done, and then, in the last minute before the bell rings, they scribble on the lettering. Obviously the picture is the important thing to them as it is to most of us. But it seems a pity that they should spoil the effect that they have worked so hard to get. Five extra minutes spent on placing and spacing lettering carefully would certainly have been worth while.

Perhaps children and teachers feel that lettering is always much the same and that there is nothing interesting about it. This is far from the truth for the study of lettering is really a study of design.

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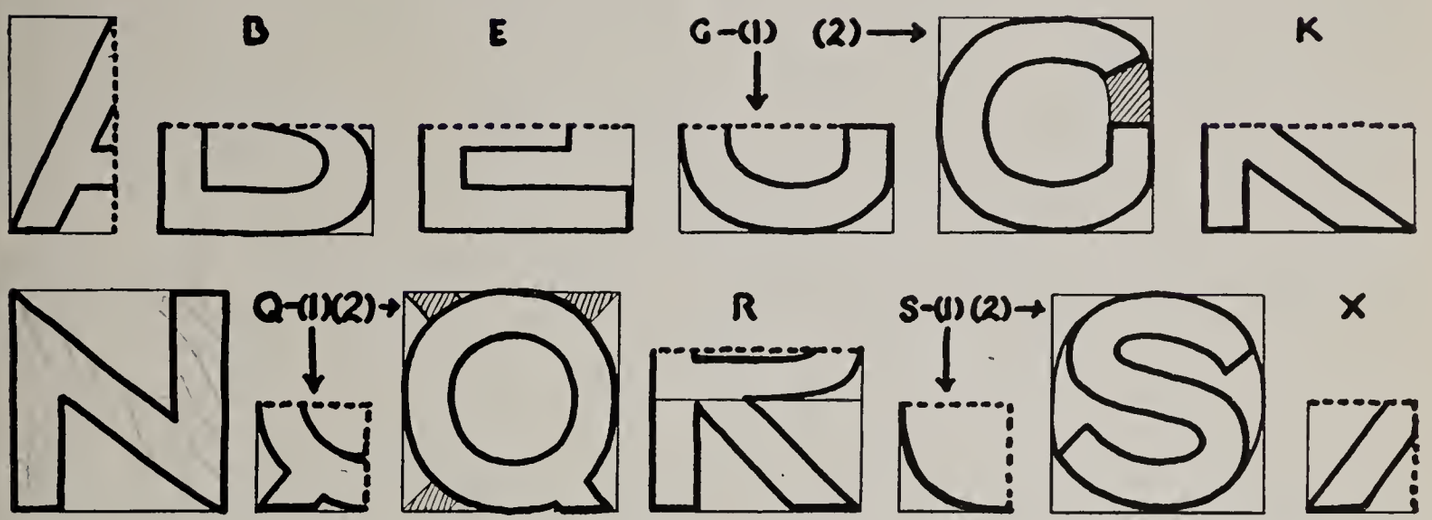

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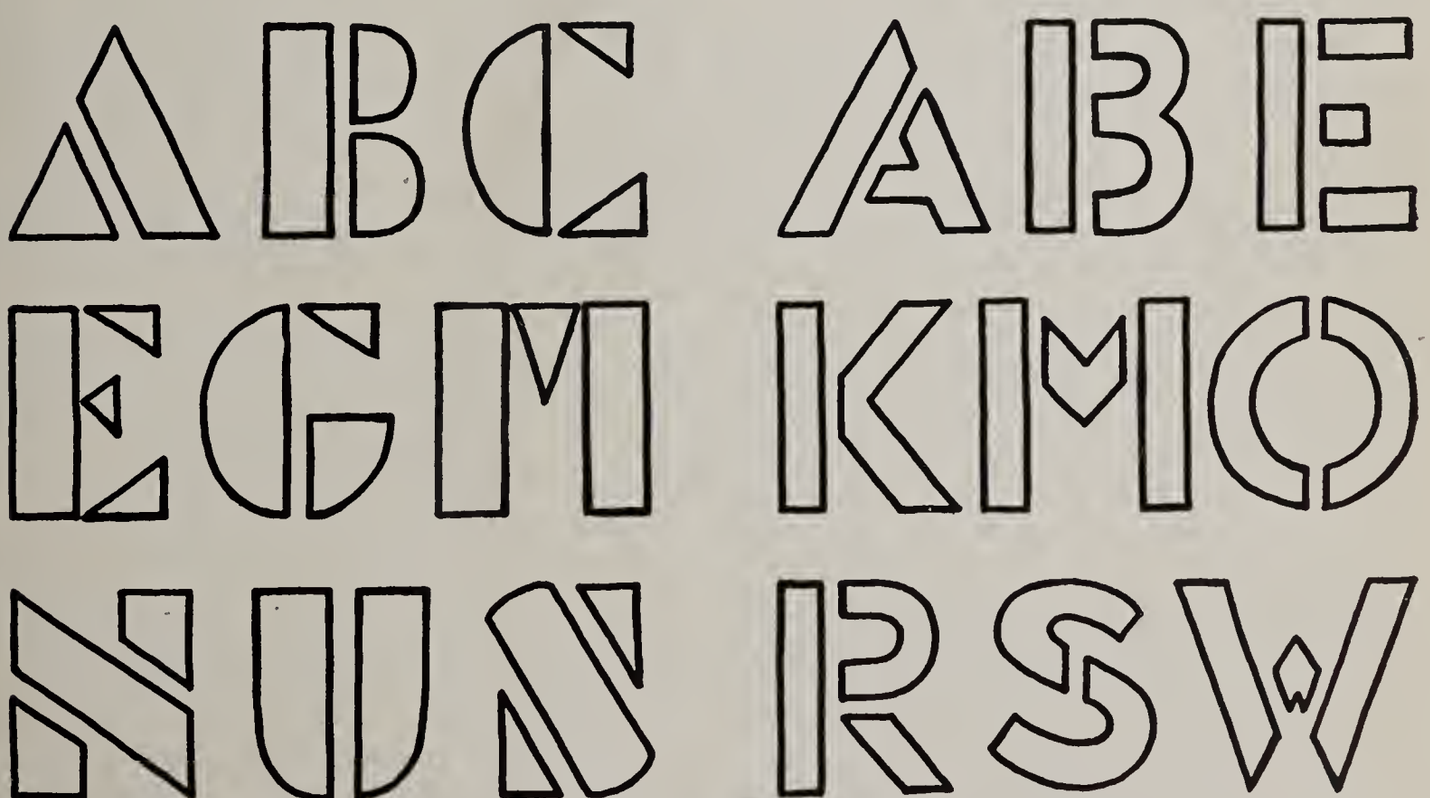

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We do not ask the smaller children for variations in letters, because the usual forms are still new to them, and present difficulty enough. The print script alphabet which we use in primary work is really the Roman reduced to single lines and simplified somewhat. This alphabet is an excellent foundation for good taste in letter forms. Care should be taken at all times that lettering on junior work, including the printing of the name, be done with the same care taken with other written work.

Gradually we progress to an understanding of spacing. If the children are taught in the primary stage that the letters should look even there is no need to learn spacing in the higher grades. Too many of us were taught to make boxes for our letters, all of the same width with a fixed gap between. This was a cast iron rule which made lettering a bore and was wrong besides. The letters are not all placed the same distance apart. In fig. 67 we see what happens if this is done. Measure the distance between the adjacent letters. Do they look even? Can we make them look even?

Let us consider first the nature of the letters themselves. Some enclose much white space, such as O, Q, G, D, and C. Other letters, for example, M, B, R, E, K, and S, require much ink for the area enclosed, and appear as blacker letters. In spacing we merely try to keep the ratio of black ink to white space as equal as possible. Since the letters themselves must be kept fairly constant we can adjust only the spaces between the letters to accomplish this evenness. Letters like O and D we may place very close together to reduce the area of white space. Around letters like M and B we must allow extra white space. See fig. 68 for an example of this adjustment. Some combinations of letters are particularly awkward, such as LA and VY but we just do the best we can with them. The whole business of spacing is not as difficult as it sounds and is far more interesting than the old box method.

The question arises next, what alphabets shall we use? Let us try to develop good taste in letters and use everything which suits our purpose. A study of lettering used in modern advertising will show us what is meant by these expressions.

Letters sometimes appear in forms so grotesque that they are mangled beyond recognition. Their designer has tried to get something novel to attract attention. But these very exaggerated letters are not good and we should avoid them. Much modern lettering, however, is well balanced, interesting, and easily read.

If an artist were making a design to advertise the products of a foundry or a coal mine, he would choose a type of letter heavy and solid like the product. On the other hand, in advertising china or perfume the letters chosen would be delicate. The one type of letter which is always in good taste is the Roman.

Young children will use the single stroke Roman or print script. This is the lettering used in fig. 73 and throughout the illustrations in this book when no kind is mentioned.

In the intermediate grades a heavy type of lettering should be used for posters. For cut paper posters there is a simple cut paper alphabet. Some of it is shown in fig. 69 with the method of cutting. The children should be able to figure out the other letters in the alphabet. To save confusion these letters may all be cut from the square. A guide line should be drawn on the poster for the tops of the letters. Then the pupil should space the letters along the line, placing a pencil dot at the corner of each as a guide for pasting the letters in place.

If painted letters are needed for a poster, we use a thick blocky kind such as that shown in fig. 70. The single stroke Roman made with a ball-pointed pen such as was used for most of the illustrations in this book would be suitable. See fig. 275. Ball-pointed pens come in a variety of sizes big enough for posters.

The type of lettering suitable for lino cuts is similar to poster lettering. Due to the difficulty of cutting fine details in linoleum tiny letters are hopeless. We eliminate serifs (little tails on letters), unless the work is large.

Another point to remember in linoleum work is that letter shapes may be scooped out of a solid background quite easily, whereas it is very hard to leave letters standing on a scooped-out background.

In stencil work lettering is frequently needed. A simple poster type, fig. 71, is again best because of the difficulty of getting fine detail with

ABCDEFGHIJ
KLMNOPQR
STUVWXYZ

72

ABCDEFGHIJKLM
NOPQRSTUVWXYZ
abcdefghijklmnopqr
stuvwxyz-1234567890

73

BDU NSabcM
Italic efg Old English

74

a stencil. Ties have to be placed where joins in the letters naturally occur. If some letters are broken by ties while others are not the result will be unsatisfactory.

The classic Roman alphabet is a pleasure to explore. We must learn relative widths, the positions of the thick parts and the thin parts, and where to use the serifs.

A summary of relative widths of the letters is given below. Study from various sources will show some variation from these widths.

(1) A letter slightly wider than high is W. (Sometimes also M).

(2) Letters as wide as high, fitting a square space, are C, D, G, M, O, and Q.

(3) Letters slightly narrower than high, about ¾ of a square space, are A, H, K, N, T, U, V, X, Y, and Z.

(4) Narrow letters about half as wide as high, taking ½ square, are B, E, F, L, P, R, and S.

(5) Single line letters are I and J. Since the J is the only letter which comes below the line, it is usually changed to fit into Group 4. This latter way is easier for school children.

If the arrangement of thick and thin parts of the letters looks hard to master let us try some experiments with a manuscript pen. It is a pen whose point is cut off at a slant. See what happens to the thickness of the strokes as we carry them in different directions and in making curves.

There should be no difficulty in remembering where to make the letter thick and where thin. Here is a summary. Make thick the straight or curved down strokes, or oblique strokes down to the right. Exceptions are the uprights of N and the first stroke of M. Make thin the straight or curved horizontal strokes, or oblique strokes down to the left. An exception is the oblique of Z. See fig. 72 for Roman letters. Study the positions of serifs from this drawing.

Once acquainted with the use of the manuscript pen the children may like to try other types of letters with it such as the slanted Italic or the Old English. The latter is interesting as an experiment but is not suitable for use on booklets and posters as it is hard to read. Its use is now confined largely to some church purposes and monograms. Fig. 74 shows part of these two alphabets done with the manuscript pen.

Good modern lettering is quite suitable for school use. Let us select a style from a magazine which is simple, suitable and easily read. If only part of the alphabet is available the children should try making the other letters.

In more advanced lettering problems we need to know how to lay out a page with several lines of words for a book cover, poster, or motto.

Margins are generally the same width at the top and sides, with more space allowed at the bottom, though in case of little lettering on a page it is not necessary to use any rule. Up to the point where lettering looks insignificant compared to the white space, wide margins make a more pleasing page than do narrow ones.

Let us lay out a page for lettering by using a ruler and a hard pencil lightly. We must work as accurately as possible. We draw a horizontal line for the top and bottom of each line, allowing a narrow space between lines. The width of a line of lettering compared to the width of space between lines varies so much that no rule can be made. The main thing is that we should be able to read the result without words running together. It is best to try our proposed measurements on another sheet of paper using exactly the kind of letters which we have chosen for the finished piece.

If we are using lower case (small) letters, a third line will be necessary for the tops of these. Then vertical lines are drawn to the right and left to define the ends of the lines, showing the margins. If the lettering does not exactly touch these lines the balance of the whole will be spoiled. A vertical line every half inch or so across the space will aid in getting letters to stand up straight.

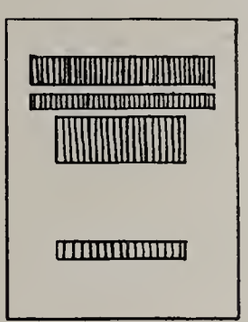
When several lines of lettering are to be made we should try to keep to a simple block shape, avoiding as much as possible uneven lengths of line. Fig. 75 shows what is apt to happen if lines are uneven, while fig. 76 shows a better arrangement. Two or three lengths of line as in fig. 77 would be good in posters and booklets.

LINES OF LETTERING SHOULD FILL THE BLOCK EVENLY. THIS IS A POOR ARRANGEMENT.

75

SEEN AT A DISTANCE LETTERS ARE NOT DISTINGUISHED BUT A PERFECTLY EVEN GRAY TONE SHOWS GOOD SPACING

76



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79

One might jump to the conclusion that good spacing is impossible unless the words to be used just happen to fit the lines perfectly. That is not the case. We must space out the letters in the line lightly with a pencil, not drawing them carefully, but merely indicating how much space each is to take up and where it is to go. If the line is a little too short or too long, we rub it out with art gum. We space it again, closing up or opening out the space between letters until it does fit. Usually we shall find that the line will come right without noticeable squeezing or stretching.

If the line is much too short it will be necessary to use line fillers here and there, at the ends of sentences and lines. These are tiny designs which at a distance are not distinguishable from the lettering. See fig. 76. We should avoid using more than two or three of these fillers.

Large initial letters are used in pages of lettering or for mottoes and poems. They are modelled on those found in mediaeval manuscripts. These initials are usually made exactly as high as the first two or three lines of lettering. The initial letter may stand alone or have a background of design unobtrusive enough to let us see the letter easily. Many examples of such initials may be found in books and magazines. Fig. 76 is typical.

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George—Modern Lettering and Poster Design. Speedball Text Book. Hunt Pen Co.
Kyle—Design for Industrial Arts. Book 3. Nelson.
Lemos—Lettering. Davis.
Ornstein—Lettering for Fun. Bridgman.
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PART II

A VARIETY OF TECHNIQUES

CHAPTER 6.

Posters.

The purpose of a poster is (1) to acquaint observers with a product, idea, or coming event, and (2) to arouse their desire or interest.

Posters in school may be for either or both of these purposes. There are general school activities to be advertised, such as Junior Red Cross, school plays, concerts, games events, and forthcoming lectures for parents. There are school newspapers, annuals, tickets and pins to be sold. There are slogans concerning health, fire prevention, slum clearance, agriculture, and safety to be spread. There are posters intended to interest pupils in books and to tell them where to get information. The poster may be correlated with all of the other school subjects and used with varying degrees of elaboration from the simplest paper cut in the primary class to something approaching the professional in the senior classes.

Posters usually have a picture of some sort and a printed message. Some posters omit the picture but the lettering then has to be particularly attractive to make up for the omission. In a poster containing both elements the picture may be large with comparatively little lettering, or the illustration may be subordinate to the lettering.

A study of the billboards around the country and of smaller posters in store windows, etc., will help one to realize that the poster is designed to catch the eye of the passer-by. The man on the street does not particularly want to read the

poster so it must compel his attention. Once he is attracted, the message must be clear at a glance.

The message then must be simple and obvious; too much detail is only confusing. The picture should contain no more objects than are absolutely necessary. Backgrounds are frequently omitted altogether. These points are illustrated in the posters, figs. 78 and 79, and also in fig. 275.

In spite of these restrictions a poster may be a very attractive piece of work. An interesting pattern of light and dark is essential. Break up the whole space in a pleasing way. Strong tone contrast will help to catch the eye, as will strong colour contrast. Remember the principle of unity. In your picture one thing or one group is of vital importance and other elements merely support it. Then use every means to see that the important element stands out while other things retire.

The same principle applies to lettering. Prominence in size, tone, and colour may be given to the part which you are most anxious to have impressed. For example, you wish to make a poster for a class play. The poster is to announce the name of the play, the class giving it, the date and the time. The name of the play would be the most important piece of information. Make it large and strong. The other details may be given equal prominence or the name of the class may be printed slightly larger than the date and time. Occasionally more than two kinds of lettering are used on one poster but the number should be limited. Posters with six or seven kinds do not gain anything from the assortment.

Poster lettering should be easily readable since people go by quickly. This means that a thick letter is usually better than a thin one. If you are in doubt on this point cut from a magazine several samples of large lettering, put them on the blackboard ledge and step back eight or ten feet. In the interests of legibility avoid fancy letters. Old English forms are very poor for posters. Letters which are exceedingly tall and thin are bad, as they run together when viewed from the side. See figs. 69, 70, 78, and 79 for examples of good types. Figs. 69 and 78 are cut paper work while 70 and 79 are suitable for painted letters.

What kind of paper is most satisfactory for poster-making? Posters on thin paper have a fashion of looking so discouraged that they defeat their own purpose. Ordinary cartridge paper is not heavy enough but may be used in an emergency. Bristol board is good but very shiny and poster paint goes on rough boards more easily. Construction paper does very well. School supply firms offer an assortment of heavy papers for poster work.

Painted posters should be done in opaque colours. Poster paint, also called tempera or showcard colour, is by far the best kind and every school should have a few colours. If bought in powder form they will last indefinitely. Colours are mixed with each other to get other colours in the usual way. Cheap water colours sold for use on walls may be used instead of the poster paint but they are not quite as satisfactory. A big advantage of opaque colours is that one layer may be painted over another if done quickly. In this way mistakes may be made right.

Ordinary water colours are not good for poster making. They have a delicate transparent quality which makes them unfit for the purpose.

Cut paper is an excellent medium for posters because colours are solid and the material does not lend itself to much detail. The lower grades may use this medium extensively. A suitable poster for Grade II or III is shown in fig. 78.

For black and white posters the cut paper silhouette or India ink may be used.

The lino cut is excellent for poster work because it has to be bold and simple. Lino cut posters may also be produced in colour. The design, consisting mostly of outlines, is cut in the block, and the areas, after printing, are painted in with poster paint. Chapter 17 gives further information on this topic.

Posters may be stencilled, any number of copies being made from one design. The stencil is made to include lettering and design and poster paint is used for the copies. See fig. 71 for lettering and the section on stencilling for further information.

If you are tired of the same old kinds of posters try pasting on a piece of real material instead of painting a patch. For example, a dress might be a piece of velvet, cotton, silk, wool, cellophane or cut paper fringe. Materials which do not fray are best. Bits of felt are excellent. For further variety one might make a musical instrument of tin foil, a tree of a real twig, or put real hair on a figure.

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Lemos—Planning and Producing Posters. Davis.

CHAPTER 7.

Murals.

Murals were originally decorations made directly on the wall. Now artists sometimes paint the pictures on canvas and then fasten them to the wall with a narrow frame around the edge.

More and more teachers are finding the mural a suitable type of illustration for children to make. A mural differs from a regular picture in that it is a design to decorate a flat surface. A picture is real-looking, is separate from the wall on which it hangs, and is a little world in itself. The mural has little or no third dimension and allows us to remember the flat wall beneath. Often a mural appears no deeper than a sculptor's low relief.

Since children's drawings are quite marked by their lack of third dimension, they already possess one quality required for murals. The work of children too, has a decorative quality, a feeling for design which is essential to a good mural. It is a mistake for teachers to insist on realism in murals, as this may be detrimental to the work as a whole.

There are kinds of murals suitable for every grade in school. The primary classes usually work in cut paper, crayon, or chalk. In the middle grades we might add to the list poster or other opaque water colour, charcoal, and India ink. All of these mediums may also be used in the senior classes.

A topic for a mural is not hard to find for any subject which lends itself to illustration may be used. Some typical ones are the following: a trip to healthland, Biblical stories, Robin Hood, Little Black Sambo, country life, street scenes, Indian life, jungles, tournaments of the age of chivalry, architecture, stages in the development of transportation, and paper making.

The size and shape of the mural depends upon the wall space for which it is intended. It may be planned for a space along the top of a blackboard, or for some other particular place. Consider the arrangement of the room and make the mural fit in where it is needed to fill a bare wall or to balance other decoration.

It is better to have the mural made to appear as a unit rather than as a row of separate pictures. If it must be done in pieces for lack of working space, it may be united as a whole by running the same skyline or distant hills through all of the pictures, by making all pictures on the same scale (decide on a certain height for figures and objects), by keeping all pictures similar in viewpoint, and by using similar colours for the large areas throughout.

The problem of material for the backing of the mural is an important one. For chalk, crayon, and charcoal a rough surface is necessary to hold the little particles. For cut paper and paint a heavy paper is needed so that it will not buckle when wet. India ink is used on a fairly heavy, smooth surface. The difficulty has been to find cheap and heavy paper which may be bought in long strips. Wallpaper, wrapping paper, building paper and factory cotton seem to be the best materials available. The wallpaper and cotton may be bought from the ordinary stock of any retailer. The cheapest is quite satisfactory. Wrapping paper may be bought from school supply firms, wholesale

paper companies or local storekeepers who may be willing to part with small quantities. Plain gray building paper is sold by dealers in building supplies.

If factory cotton is used as a backing, stretch it on a wall space or table on which it can be tacked securely. Give it a coat or two of thin glue sizing. This prevents the paint from soaking into the cotton too much. Draw the design with pencil or charcoal and paint with water-mixed wall paint or poster paint (the latter is expensive for large surfaces).

If the back of wallpaper is to be used, crayon or chalk will give best results. Crayon is apt to be pale and lifeless from a distance unless put on very solidly. Chalks adhere quite well to wallpapers which have not a slippery surface. Since this paper tears so readily it is best to have it considerably wider and longer than the drawing so that it can be trimmed. Tacking it to the wall would be the best way to handle it. Try to put it at a convenient height for the children, and if you have a rough surface underneath, pad with newspaper.

Many teachers have asked how to overcome the great difficulty of smearing with chalks. Several things may help but none is entirely satisfactory. (1) Rub the chalk in with the fingers and blow off the loose powder. (2) Spray with a fixative made from five parts of wood alcohol to one of white shellac. Note—Coloured shellac will darken the colours. Prepared fixative may be bought but is more expensive. (3) Spray with a thin solution of gum arabic in water. (4) Paint each section separately with clear water. The separate painting is necessary to avoid mixing the colours.

Cut paper murals are excellent in the lower grades for the nature of the material prevents too much realism. The background should be heavy wallpaper or brown paper. Decide first what objects are to be put in. These may be drawn before cutting, or cut without drawing, just as desired. Place them all to ensure good arrangement, and then paste.

Charcoal and India ink are used for black and white decorations. They have the advantages of speed and cheapness. Simple silhouettes make the most effective murals of this sort.

Girls might be interested in stitching a design on a cloth background with bright bits of wool. A stiff canvas, factory cotton, or even sackcloth is satisfactory. As this background requires much handling, it should not be very large, and should be fastened on a frame, something like a quilting frame, to keep it flat.

First arouse the interest of the children in a topic and let them have a voice in the choosing of a part to portray. If necessary send them out to look for information. They should bring it to class in as businesslike a way as their age and ability will permit.

The class next plans the mural in detail. The children should work together actively for practice in co-operation is extremely valuable to them. Perhaps they will suggest working in groups with one phase of the subject allotted to each. If possible, children should be allowed to elect whatever part they are most interested in. When practically everyone wants to work on the same part, some system of fair allotment may be necessary, or the interesting phase may be enlarged to employ many workers.

Let each child in a group make a sketch, as original as possible, showing his mental picture. He should colour it and submit it for consideration by the group. Pick out the most suitable sketch in each group, keeping in mind that the finished products have to go side by side. It may be necessary to reject the best drawing in a group if it does not harmonize with the others.

Sketches are enlarged freehand or to scale according to age, and then painted. All children in the class should have a share in this work. Those whose sketches were chosen may be captains and direct the rest. Children who show the best muscular control may do the finest work while those with poor control will be quite happy painting the background, mixing paint, washing brushes and so forth. When finished and dry the mural is trimmed and put in position.

Fastening to the wall often presents difficulties. If the wall space is plastered either with or without paint, short strips of gummed paper, cellulose tape, or adhesive tape will hold it. When the mural is taken down all marks of the tape may be removed.

CHAPTER 8.

Stained Glass Windows.

Windows of stained glass in beautiful design were first put in churches for the benefit of the illiterate people of mediaeval times. To-day, not only churches, but many other buildings as well, gain colourful beauty from windows of "storied glass".

Two methods of making the real windows are employed. First, pieces of stained or coloured glass are cut to the desired shape, and let into grooves of finely made leaden frames which form a black outline around the pattern. Second, the same process is employed and enamel colours are painted on for faces, folds of drapery, etc. This colour is finally burned in.

In designing such windows the artist knows that pieces of glass of complicated shape or pieces that are exceedingly large or long and narrow, must always be cut up. The designer must try to have the joining lines of lead come in places where they will not attract undue attention. If possible they are placed where joins or lines might naturally occur in the subject.

Children enjoy making designs for stained glass windows if they are allowed to carry them out in some translucent material. The effect when finished and put against the windows is a delightful surprise to them. The best result is obtained when the design is kept quite simple and when deep brilliant colours are used.

Some suitable topics for designs are as follows:

(1) Nursery stories.
(2) Fairy tales.
(3) Incidents from history.
(4) Illustrations depicting progress in the development of aircraft, transportation, etc.
(5) The Christmas story.
(6) Other Biblical stories.
(7) Remembrance Day.
(8) Geometric or abstract designs.

Several methods of making the artificial windows done by children are explained below with some indication of their relative merits. The methods are arranged somewhat in order of difficulty. Those given first are simple enough for juniors but the others are best handled by intermediate or senior classes. Primary children should not attempt this work.

A very simple window design may be made with water colour wash. Draw an arched window shape with a few vertical lines added to make an interesting pattern. See fig. 80. Float a clear water wash over the window shape and while it is still wet put on several colours in various parts of the design. Allow them to run together, but do not mix them too much or gray mud will result. When dry, paint in the black lines about 1/16 inch in thickness.

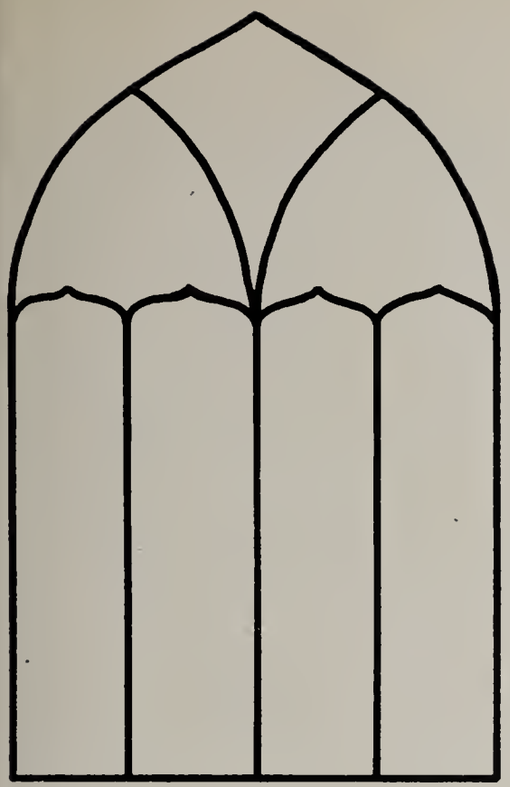
While this exercise may help the children to understand the peculiarities of water colour a little better, it is not comparable to the other ways of making stained glass windows.

A design in water colours may be treated to give a translucent effect. Make a design on ordinary cartridge drawing paper and paint it with water colours. Then give it a coat of boiled linseed oil or melted paraffin put on with a brush to make the paper translucent. Fasten the design against a window being sure to shut out all light around the edges. This method has the advantage of being very simple but results may not be quite as effective as those secured with better materials.

Juniors may use wax crayon on unmounted tracing paper with very good effect.

Translucent paper pasted on a cut framework of cardboard gives an attractive result. Trace your design on heavy paper or on light cardboard, paint the lines thickly, and cut out the sections between. The lines left should be about ¼ inch thick, and the whole should not be smaller than about 1½ square feet in area in order that these lines may not appear too heavy. Cut and glue pieces of cellophane in various colours under the proper sections. Crepe paper or tissue paper may be used instead of cellophane.

This method makes a strikingly lovely window but cellophane will buckle after a few days exposure even in a north window, if the



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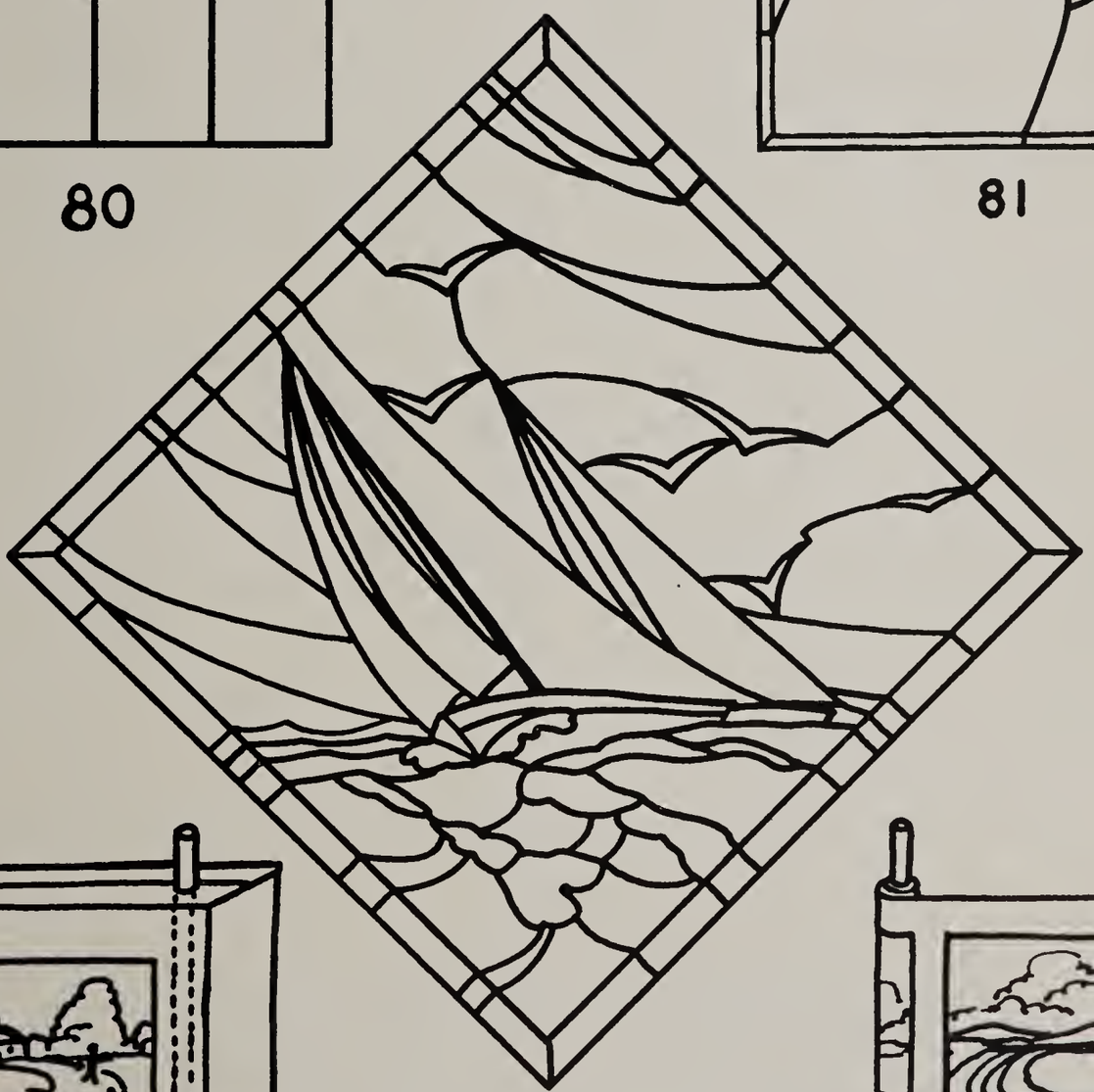

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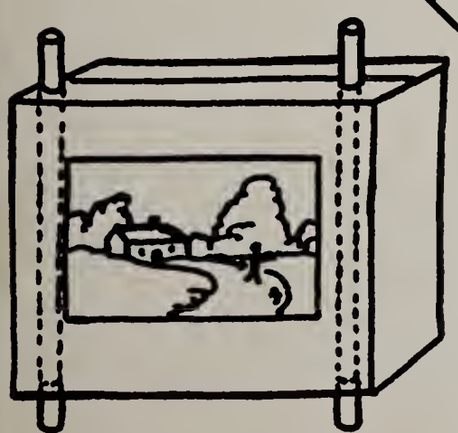

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air is at all warm. Moreover it is difficult to stick pieces of cellophane in place neatly. If the design is simple enough and tissue paper is used the result will be satisfactory. Be sure, however, to use a paste which sticks immediately and firmly.

Sometimes cellophane is pasted on thin factory cotton. The children first stretch the cotton over a frame. Then they trace on the design, cut cellophane, stick it on the areas for it, and paint the lines between with black house paint. This method has the same drawbacks as the previous one using cellophane.

If oil paints are procurable, they may be used effectively on factory cotton. Thin the colours with turpentine and apply directly to the cotton to which a coat of glue sizing has first been applied and allowed to dry. The black lines are painted with thicker oil paint. This method has been known to create a very beautiful result.

The most satisfactory method for most teachers makes use of tracing or butter paper. Mount a piece of this paper on a wooden frame of the desired size. To do this easily, spread glue along the four sides of the frame and unroll the tracing paper over it. See that the paper is flat but do not stretch it for it may give way when dry if it is too tight. Architect's tracing linen, if obtainable, may be used instead of the paper, with still better results.

Draw the design on ordinary paper and trace on the stretched paper. Go over the design with India ink and a ball-pointed pen making the lines as heavy as the size of the design requires. Paint the parts of the design with successive layers of ordinary water colours or dyes. The more brilliant and transparent the colour used the better the result. It must be remembered, too, that colours have to be much deeper than they are expected to appear when the light is coming through. If a wooden frame is not procurable it may be possible to get a piece of glass on which to mount the tracing paper.

Whatever method is used it is important that the design be placed over one of the classroom windows with the light excluded by a paper mask from the rest of the window. In this way one's attention is focussed on the design without any other distracting source of light. Figs. 81 and 82 show suitable designs for stained glass windows.

A little information about the materials mentioned may be helpful to some teachers. The tracing paper is quite cheap and is bought from dealers in artists' supplies. The oil paints mentioned are those used by artists but need not be of high quality. Dyes commonly sold for household purposes do very well for window designs and are easily obtainable.

CHAPTER 9.

Cartoons.

Many teachers deplore the popularity of comic strips and cartoons among the children but in spite of their disapproval the "funnies" are eagerly seized as soon as they appear. Many a child in the past has been punished for drawing caricatures in his books. Possibly a little more education regarding such forms of art would accomplish more than disapproval in developing powers of discrimination.

A cartoonist must be able to draw well, and children may learn much from drawing cartoons of their own. The results may appear in the school paper or magazine or on posters for impressing health or safety rules.

Cartoons are most useful through the intermediate and senior grades, and are an excellent means of teaching action lines in figure drawing. See Chapter 4.

On just what qualities does a cartoon depend? Here are a few of them.

First of all there must be an amusing situation. Then the amusing situation must be put on paper in one or several pictures.

Notice how few words are needed in a good cartoon or comic, but how meaningful those few are. The problem arises, then, of reducing the whole funny episode to a few telling pictures. People must "get the point" without the bother of long study. Details must be eliminated until nothing remains which is not absolutely necessary for proper understanding. Notice how well this is done in some present day comics. Others, which tell their story in a much more detailed way, are not cartoons as much as illustrations.

In cartoon drawing itself, everything is exaggerated. If one man hits another he hits him extremely hard. If a man runs, he runs so fast that he fails to touch the ground. A fat man is extremely fat and a thin one ridiculously thin.

The present popularity of animated cartoons such as those of Walt Disney may suggest to the youngsters that they make a series of cartoons which tell a story. These cartoons may be pasted on a long strip of paper and made into a movie. The movie machine itself is described in the following chapter.

If a class wishes to try cartooning they will be wise to begin with single pictures. Let them show something funny which happened to themselves. From there they might progress to the comic strip and then to the movie. Cartoons are effective in pen and ink sketches, in silhouettes, or in colour. Water colours, solidly applied, or poster paint also give satisfactory results.

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Loomis—Fun With a Pencil. Viking.

Points on Cartooning—Treasure Chest Publications.

CHAPTER 10.

Home-made Movies.

A very simple movie machine is a useful contrivance for primary and junior children. It is simply made and may be operated by even the smallest child. If the machine is well constructed it should not be necessary to make a new one each year.

The movie needs no special equipment or material. All that is necessary is to get a good sized corrugated cardboard box, a strip of paper about 12 inches wide or more, and two pieces of broom handle.

The film consists of a row of illustrations made by the children and pasted in place on the strip of paper.

If pictures accompanied by suitable words or sentences are used in place of the ordinary illustrations primary teachers may find the movie a satisfactory device for the teaching of reading.

Suitable topics for the movie film are not hard to find for any of the stories dear to the hearts of children may be used. Other subjects for illustration are: life in China, modes of travel in different lands, a trip to the zoo, story lives of plants or animals, and safety rules.

The box may be 18 inches long by 12 or 15 inches high and any width. Cut a rectangular opening in the front as neatly as possible. If it is made the same size as the drawing paper used by the children the matter of making drawings will be simplified. The top of the box is left unfastened but the flaps are not removed.

On each side, near the front is placed a roller made from a broom-stick or the roller of an old window blind. These rollers should be several inches longer than the height of the box. Cut holes just big enough to fit the rollers at both sides of the top and bottom, four holes in all. (See fig. 83). These holes should be about an inch back from the front to allow space for the rolls of paper, and 1 inch in from each side. It will be necessary to have the box slightly

raised or to let it project a little over the front of the table on which it sits in order that the rollers may be able to turn freely.

The pictures are drawn and painted by the children, then pasted together on a long strip of brown paper or wallpaper. The end of the movie strip is fastened to one roller with tacks, and the rest wound on it. The beginning of the strip is fastened to the other roller in the same way. Since this is the way we are used to reading we should run the film from the right roller to the left one. The rollers are now put into the bottom holes and the top closed down, with its holes fitting over the rollers. The rollers are now securely in place and we are ready to operate. Fig. 83 will help you to see the construction of the projector and fig. 84 explains how the film is attached to the rollers.

There is no reason why rollers could not be fitted into the sides of the box running horizontally or why a handle could not be fastened to the second roller for ease in winding. Many such improvements may be made if older children are interested.

The work and fun really come in making the film. Suppose it is decided to illustrate the story of Little Black Sambo. Incidents suitable for illustration are listed and one may be assigned to each child or to a small group of children. The drawings may be made in any medium suitable for illustration in the grade. Chalk must be avoided because it cannot stand handling.

When the drawings are finished they are arranged in natural sequence, pasted on the wallpaper strip, and put in place. Usually a gap of 2 inches or so is left between adjacent pictures on the strip.

Now someone has the honour of turning the roller while the others look on. As the film moves along pausing at each picture, the child who made that particular picture may tell his part of the story.

Films such as this may be saved for future use by taking them off the rollers and storing them away.

CHAPTER 11.

Finger Painting.

In art as in other things it does seem that there is nothing new under the sun. Certainly finger painting is not new. It has been used extensively by primitive peoples for making designs on pottery. To most of us, however, it is something of a novelty.

Finger painting may be used to produce unusual designs and pictures even by kindergarten children. Senior classes are also able to enjoy and profit from it. It affords an excellent chance for a free rhythmical movement of the arm and so has all of the advantages of the large coarse materials now recommended for children's use.

Pictures produced by this method may be quite effective from the standpoint of decoration but the most promising use of finger painting is for all-over patterns. These may be used for book covers, end papers in books, wallpaper or floor covering in the doll's house, and paper costumes. They may also be used to decorate pottery, picnic plates, etc.

The paint may be prepared in several ways or may be bought ready mixed from school supply firms. A very good paint is made from flour or prepared paste with colour added. Laundry starch or cornstarch may be prepared in the usual way and have colour added. The colour used may be poster paint, either dry or liquid, painter's dry colours, water-mixed wall colours, or ground chalk ends.

The paint is used on damp pieces of ordinary manila or cartridge drawing paper. Take out a little of the thick paint with a spoon and quickly cover the whole surface of the paper. Then by different movements and pressures of the hands

or fingers a great variety of patterns may be made. If the result is not satisfactory it is a simple matter to smear the design out and start over again. The whole process has to be completed quite quickly for the paint soon dries unless the artist keeps it wet by dipping his hands in a basin of water. Colour combinations may be obtained by using strips of paint in different colours, and then working over them.

Older children may enjoy making and using some tools for spreading the paint. Let them experiment with a cardboard or wooden comb cut with teeth and spaces of varying widths. They will take pleasure in the results obtained.

Reference

Thach—Finger Painting as a Hobby. Harper.

CHAPTER 12.

Blueprinting.

Most people consider blueprinting much too difficult for the ordinary school child but in reality children are greatly interested in the process, and learn it quite quickly.

Blueprinting can be used to advantage by intermediate and senior children in making such things as school signs, posters, greeting cards, plans, bookplates, and plant studies. The design to be printed should be put on tracing paper in pencil or India ink. If a silhouette is desired on a light background, fill in the background on the tracing with India ink. The tracing will be the opposite of the desired result. What is black on the tracing will be white on the blueprint, and what is left clear on the tracing will be deep blue on the print.

Blueprint paper is inexpensive and may be bought from most stationers. It is chemically treated to be sensitive to the sun's rays and should be handled away from strong light. Keep your supply wrapped and in the dark.

Buy a little potassium bichromate from a druggist to make a fixing bath.

A printing frame is needed. The frame sold for the purpose is best, of course, but a picture frame may be used. In preparing a picture frame, fasten the glass securely in the frame to prevent it from falling out. The back should have a pad made of two or three layers of flannelette or a layer of cotton batting.

The steps in making the blueprint follow.

(1) Test a small piece of blueprint paper for the correct time exposure. In midsummer one minute is enough but in winter a longer time will be needed.

To make the test put a small piece of clean tracing paper next to the glass. Since a layer of this paper will always be in front of the blueprint paper it may influence the time slightly. Omit it if you are going to use plant specimens. Put in a small piece of blueprint paper with its coloured side next to the tracing paper. Put on the back and hold firmly with the glass at 90° with the sun's rays. A strip of cardboard should be held in front of the glass covering most of the blueprint paper for 15 seconds. Then shift it to expose a bit more paper for another 15 seconds and so on, repeating for 3 or 4 minutes. Remove the paper, wash in water, then in fixing bath, and rewash in water. You will now have a piece of paper on which are strips of various depths of blue. Select the best one for your purpose and calculate the time of exposure.

(2) For your design, cut a piece of blueprint paper slightly larger than the tracing.

(3) Put the tracing in the frame, face to the glass.

(4) Put the blueprint paper in the frame, chemical (coloured) side next to the tracing.

(5) Put the pad in the frame. Hold firmly.

(6) Check to make sure the tracing and paper are properly in place.

(7) Hold the frame so that the glass is at 90° with the sun's rays.

(8) Take out of the sun after correct exposure.

(9) Remove the blueprint.

(10) Hold it under running water if possible, to wash off surplus chemicals. In any case, wash well.

(11) Wash in a bath of potassium bichromate to fix the colour. This really is optional.

(12) Rewash in water.

(13) Hang up to dry.

(14) Iron out the print and use as planned.

If plants are to be used, the actual specimens are placed in the frame next to the glass instead of the tracing. Choose specimens with interesting detail which shows in the outline. Ferns used in this way give excellent results.

CHAPTER 13.

Spatter Work.

Spatter work never fails to awaken interest in the art class. A child does not need to be very old or very clever to be able to produce good results in this medium. It has been used with satisfaction from Grade III up.

Spatter work makes a light silhouette of any shape, such as a rabbit, tree or child against a dark background. The shape to appear in silhouette is cut out and laid on a sheet of paper. The background is then spattered. The winter scene in fig. 85 was done in this way. Paper cut-outs of three trees and a hill were made. These were all pinned on the paper and the background was sprayed. Then two of the trees were removed and more spraying was done. The result was intended to be used as a Christmas card.

Nature specimens such as leaves may be pinned on the paper and the background sprayed in a similar way. This hardly comes under the heading of school art but may be found useful for natural science.

Instead of using a light shape against a dark sprayed background one might use a paper stencil and spray through it to make a dark shape against light. The Christmas card design in fig. 86 was made from a two-plate stencil. One might put on both stencils, spray, remove one and spray again. In the illustration the two stencils were used separately. For school posters the lettering should be much larger than that shown for it will be noticed that clean-cut edges were difficult to get. Further information regarding stencils will be found in the next chapter.

It is quite easy to use a light-coloured paint to spray on a dark background. In this case the results will be the opposite of those described above.

No special paper is required for spatter work. There are several suitable kinds of paint—ordinary water colours, poster paint, India ink or ordinary coloured ink. An old toothbrush is as good as any that you can buy for spatter work. A stencil brush is good if you have one. If a cheap fly-spray gun is available, no brush will be needed.

Cover a drawing board or large sheet of cardboard with newspaper. Tack a sheet of drawing paper on this and put a paper cut-out, a stencil, or a plant specimen on top of it. See that the edges are lying close to the paper. Pins or needles stuck through the paper will hold objects in place, but it is well to avoid punching too many holes in the paper.

Three methods of spraying the paint are used. The brush dipped in some of the colour, is held in the left hand 3 or 4 inches away from the paper, while a knife held in the right scrapes over it toward you. This sends a spray of paint on the paper. The closer you hold the brush to the paper, the smaller the area which is sprayed.

For the second method use a piece of wire window screening. Hold it in one hand and brush across it with the colour. This sprays the colour more evenly than the first method. The result is much improved by using a framed piece of screening. This frame should be about 2 inches bigger each way than the paper to be

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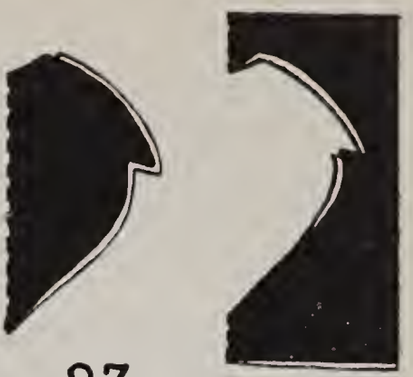

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sprayed. If the wood used for the frame is 1 inch or slightly more in thickness, the screen does not have to be held in the hand but may be rested on the drawing board. The wire screen should always be held at least an inch away from the paper.

The third method is the most efficient one. Use a fixative sprayer or a spray gun with India ink or thin colour. It is easier to use the drawing board in a vertical position for this method. As quite a current of air is set up by the spraying, all papers need to be well tacked down.

Two faults commonly occur in spatter work—woolly edges and very coarse spattering. Woolly edges are caused by the cut-out or stencil being raised a little from the paper. Sometimes this is done purposely to get an unusual effect. In fig. 85 the edge of the snowbank was softened in this way. Coarse spattering is caused by having too much colour on the brush. When this is the case, small drops go on instead of a fine spray. This is also the result when the spray gun is pumped too hard.

A design may be spattered with more than one colour. Put on the first colour by means of a stencil or paper mask. Wash the utensils while this colour is drying. Now cover with another stencil or mask all the parts which are not to receive the second colour. Put on that colour. Repeat the process for as many colours as you want. For those who do not know how to make stencils an explanation is given in the next chapter.

Colours may be blended quite easily in any particular spot. Simply put on the main colour, dip your brush in the second colour, and spatter it over the first layer of paint.

CHAPTER 14.

Stencils.

The making of stencils has long been a favourite activity in the art class. Stencilled designs on painted walls may frequently be observed both at school and at home. At school, children find opportunities for stencil work on blackboards, and on book covers, bookplates, posters, and greeting cards. At home, they may use their designs to decorate useful articles, such as cushions, runners, and table mats. The piece bag will usually yield sufficient material for making these articles.

Most stencilling is best left for the senior classes, but some of the steps outlined here are simple enough to be used by all except primary children. As a first step towards stencilling, designs may be worked out by paper cutting. Give the children pieces of paper about four inches square. Ask them to fold the paper once across, and then to make from three to five scissor cuts along the folded edge, somewhat as shown in fig. 87. The result will give each child two pieces of paper, the inner part called a *template* or *templet,* and the outer part called a *stencil.*

Either of these parts may be used for the next step, which consists of repeating the pattern in a border. The repeated motifs may be tied together by an additional motif, a space-filler drawn freehand to fit loosely between the repeats. Fig. 88 shows a section of a border with motifs and space-fillers. The paper cut patterns may also be used for making spot designs or all-over patterns.

In transferring the design to the paper, the pupil may trace around either the template or stencil. Tracing is unnecessary, if the drawing sheet is ruled to show the position of the repeats, and the design is then stencilled directly with chalk, wax crayon or paint. When crayon is used, variety may be secured by going around the design with solid colour before shading off to a very pale tone in the middle. More than one motif may be used in one design if desired.

Stencilling in the senior classes requires more

elaborate methods, materials, and equipment. Most of the materials, however, may be found in the classroom cupboard.

Wrapping paper—the thicker the better—is excellent for the stencil plate itself. Carbon paper is used in tracing the design, and a sharp-pointed or razor-blade knife is required for cutting the plate. Shellac, turpentine, or linseed oil should be on hand, as these are used in making the stencil plate non-absorbent.

Paper, parchment, and cloth are the materials to which stencilling is usually applied. Almost any paper, except one which is highly absorbent, will take the paint well. Cotton, silk, and linen with a firm even weave are the most satisfactory cloths. Fabrics which are too soft for easy handling are unsuitable. A little sizing in the cloth keeps the colour from running.

The paint used will vary with the material to which it is applied. Poster paint or other opaque colours to which some sizing or glycerine have been added, may be used on paper. On cloth or parchment, oil paint or printer's ink thinned with turpentine will give best results. Cloth stencilled in this way may be washed, if care is observed, but the work is more washable if to the paint there is added a mixture of four parts turpentine, one part oil of wintergreen, and three parts acetic acid. This mixture fixes the colour, but its effect is increased if the stencilled cloth is pressed with a damp cloth or is steamed after the paint is dry. This treatment not only fixes the colours, but softens the fabric.

Buy a regular stencil brush for applying the paint. Nothing else will serve as well, although a rubber sponge with a very little paint upon it may give satisfactory results. With practice, the pupil may even dab the paint through the stencil plate with his fingers.

When materials and equipment are on hand, the planning of the stencil may begin.

Draw the design exactly the required size, remembering that the pattern is to consist of holes of various shapes and sizes and also that the background space around the holes must be held securely together. If some of these parts break away the design will be changed, probably ruined. Ties (strips of paper left purposely) are often needed to hold parts together. In fig. 89 arrows point to several ties. The white parts are the holes cut out. A tie should come at a natural join in the object or in as inconspicuous a place as possible. Try to make these ties add to the design rather than detract from it.

Cut a rectangular piece of brown paper big enough to project at least an inch beyond the design all around. This becomes the stencil plate. Trace your design on the brown paper with carbon paper. Go over it in pencil to be sure that the design is clear and accurate.

Shellac one side of the brown paper, allow it to dry for an hour or more, then shellac the other side. Turpentine or linseed oil could be used instead of the shellac. The purpose of these coats is to make the paper non-absorbent of the colours. The stencil plate may be washed off without much harm if care is taken not to break the ties. If oil paints or printer's ink are being used, clean the plate with turpentine on a rag.

Lay the traced design on a pad of newspapers and cut out the pattern. During the cutting, the paper should remain flat. Do not saw or jab. Be sure to get clean-cut edges particularly at the corners. It is better to cut out from a corner than into it.

Cover a drawing board (or table if needed) with a pad such as a piece of blanket, and then place a few sheets of newspaper on top. Tack down. Stretch over it the cloth to be stencilled and tack it also. If paper is being used instead of cloth you may dispense with all of the padding.

Now it is necessary to mark where the stencil design is to go on the cloth or paper. If it is a border, make a light pencil guide line along the top or bottom or both. The edge of the brown paper must come to this line. Mark exactly where along the line each pattern is to be placed. When the positions of patterns are properly measured and marked there should be absolutely no guesswork in placing the brown paper stencil plate.

Place the stencil and tack or pin it if possible. Otherwise it may be held firmly by one hand.

Mix paint like a thin paste in a little pan. It should not be mixed with the stencil brush. Take a little out on a flat surface such as a

saucer or piece of glass but not enough to cover the surface.

Hold the stencil brush vertically and always use it in this position. Tap the brush in the paint and then apply through the holes with the same tapping motion.

By far the most common difficulty lies in keeping the paint from running underneath the stencil plate and forming a blot. This blotting is caused by too much paint, or too thin paint, on the stencil brush. Sometimes the plate does not lie close to the paper or cloth in some spot. Hold it down with a pin, a pencil or the finger while stencilling around that part.

It is sometimes possible to use two or three colours on one stencil plate provided they are not closely intermingled. To do this use a mask. Any scrap of stiff paper will do. Suppose you wish to use green and yellow. Slip the mask over any part which is to be yellow while you stencil the green. Move the mask about to protect the spaces for the yellow as you work. When the green has dried, slip the mask over the green patches in the same way while you stencil the yellow.

The best way to handle more than one colour and in fact, the only way when you have several colours or an intricate pattern, is to cut a separate stencil plate for each colour. The spatterwork Christmas card, fig. 86, will show how to do this.

The design is drawn completely as usual. When you come to the tracing on brown paper, make two tracings as in figs. 90 and 91. In the first tracing, only those parts appear which are to be stencilled light gray. In the second are the remaining parts which are to be stencilled dark gray. If there were still more tones of gray, there would be a separate plate for the parts in each additional tone.

In making these tracings one point is of special importance. You must arrange a method of registering your plates. That means simply this. Suppose you have stencilled fig. 90. Now pick up the other plate, fig. 91, and try to set it down on top of the work. You do not know just where to put it because you can not see what is underneath. If you put it in the wrong place the work will be ruined.

In two corners at least of each plate are register marks—notice the corners of figs. 90 and 91. These are traced accurately on each plate and are cut when the stencil is cut.

Now you put the first plate down, stencil it and mark through the register marks with a pencil. These marks are shown also in fig. 86. When the second plate is put down, match its register marks exactly with the pencil marks. Your plate now will be in the right spot.

What has been done with two plates could be done with three or four as easily. The two plates shown here could have been used to produce a card with colours brushed on by the ordinary stencil method.

References

Leaflet No. 22—Stencilling. Dryad.
Smith—Stencilling. Craft-for-All Series. Pitman.
Tonks—Stencil Crafts. Warne.

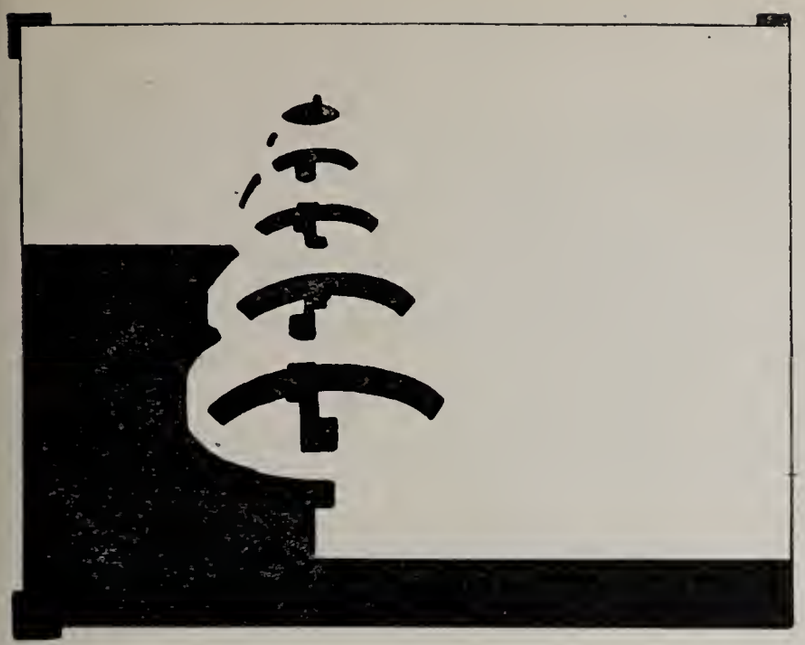
CHAPTER 15.

Stick Prints.

Repeat patterns may be secured by printing from blocks bearing a raised pattern on one surface. Wood, linoleum, or even vegetables may be used for making the blocks. This chapter will deal with a method of block printing suitable for junior grades—a method known as stick printing.

The materials are easy to get. A piece of wood is needed, the end of which may have any regular shape—square, rectangular, circular, triangular, etc. Its area should not be greater than about 1 square inch. Empty spools, pieces of broomhandle, or children's building blocks will do very nicely. It is easier still to use corks or blocks of rubber.

Sandpaper the end of the block until it is



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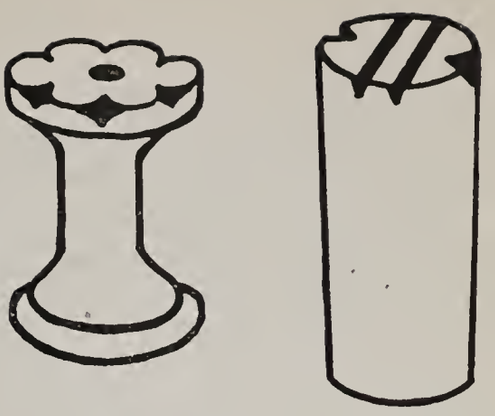

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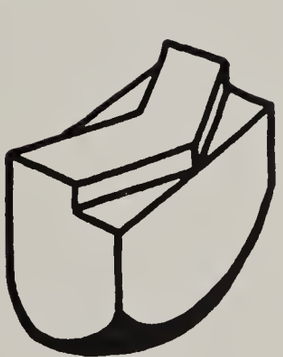

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smooth, but be careful not to wear the edge lower than the rest. The best way is to put the sandpaper on the table and rub the block on it.

Use a file to make a simple pattern on the end of the stick somewhat like those in fig. 92. A pocket knife should be substituted for the file for rubber blocks.

The block will print on any ordinary absorbent paper, or on cloth. If the latter is used it is best to have a kind with some sizing in it. This is desirable because the colours are not so apt to run. Cheap cloth often is full of sizing and therefore is suitable to use.

It is possible to use poster paint, water colours, or an office stamp pad for the printing. A home-made stamp pad has two or three layers of blotting paper, felt or flannelette saturated with colour to which a little cooked starch may be added. Dyes may be used in this way too.

It is necessary to mark out the paper or cloth to show where the prints are to be placed. For a border design, draw a line where the top of the border is to be. For an all-over pattern draw blocks, so that one print may be placed in each.

Now for the printing! Cover the end of the stick evenly with colour by using a brush or pad. Print by pressing firmly and rocking sideways a little to get even edges. Repeat the process.

Many articles, such as booklet covers, blotters and doll mats, may be decorated with borders or all-over patterns in this way.

REFERENCE

Leaflet No. 57. —Stick Printing. Dryad.

CHAPTER 16.

Potato Cuts.

Cheap blocks for pattern printing may be obtained by cutting potatoes or carrots. These blocks are not as lasting or as easily handled as stick prints, and they are, therefore, unsuitable for use in junior grades. Intermediate pupils manage them very well.

A potato about 2 or 3 inches across is suitable. Cut it in half, as in fig. 93. Set face down and make four vertical cuts to make the face square or rectangular in shape. The top of the potato may be left to serve as a handle.

Draw a simple design on the face of the potato with a soft pencil—fig. 94. Cut cleanly away with a paring or pocket knife the parts which are not to print. Fig. 95.

Since potato is quite wet we may need to keep beside us as we work a blotter on which to stamp after each printing.

Water colours may be used quite thickly or mixed with paste. Poster paint or a stamp pad will do. Paint the surface of the potato with a brush, or stamp on a pad. Print on absorbent paper or cloth. If the latter is used it should be stretched on a drawing board with a pad beneath. Even under the paper a pad is helpful. Stamp the potato on the blotter, charge it with colour, print and repeat. Very good all-over patterns may be made in this way. Fig. 96 shows a typical one.

The first few prints should be made on waste paper because the block does not print well until it gets thoroughly saturated with colour.

Some pupils have difficulty with the wet potato and prefer to use it dry. Cut the potato in half and leave it on the radiator or near other heat for half an hour. Now cut the design and print it. If the design were cut first and then dried there would be such shrinkage that the pattern would be spoiled.

CHAPTER 17.

Lino or Linoleum Cuts.

Perhaps no one medium for school use has gained such enthusiastic approval in the last few years as linoleum. Quite an array of materials is needed, quite a litter is likely to be made, but lino cutting is still a favourite. Why should this be so?

We all know the deep satisfaction which children get from creating something all their own and from actually putting it to some use. Lino cutting is a very flexible medium in which to express one's ideas, it involves handwork and the results are usable. The prints are usually more attractive than the child has expected and this naturally pleases him.

The number of copies that may be printed from a lino cut is further reason for its use. Where one Christmas card may be produced by drawing and painting, a little more work on a lino cut makes it possible to print any number up to five hundred copies; after that number the lino block may be too worn for further use.

Lino cut technique does not require fine detail or such skill that only a few older children can master it. Many pupils in junior grades have made good lino cuts but the work is usually given to intermediates and seniors.

Although considerable equipment is needed nothing need be expensive. Once bought, the tools should last for several years with little replacement, and some of the tools have other uses as well.

As for the smudges of ink and chips of linoleum which are bound to appear in the farthest corner, why worry? The children soon learn that good prints are only possible when they handle them with clean hands and clean tools. A co-operative method of printing is likely to be developed by the children themselves, where one person handles the inked rollers and blocks, while another looks after the clean paper and prints. A third husky individual might turn the press.

The uses for linoleum prints are various, and new ones will probably suggest themselves to you. Here is a partial list.

(1) Pictures for framing. These might illustrate other lesson topics.
(2) Calendars.
(3) Bookplates.
(4) Game score cards. Make these a good size.
(5) Posters.
(6) All-over patterns on paper or cloth.
(7) Christmas cards.
(8) Seals and tags for Christmas parcels.
(9) Party favours, place cards and the like.
(10) Labels for fruit and jelly jars, spice cans, etc.

Use the battleship linoleum which comes in several thicknesses. Buy 2A or 3A grade. The A thickness is not satisfactory because the child will cut right through to the back in an effort to cut deeply enough for clear printing. A cut which is too shallow picks up ink along its edges. The colour of the linoleum matters not at all. Your local dealer may be able to supply you with left-over bits cheaper than you can buy pieces ready cut from school supply firms.

The best cutting tools are wood carver's tools. These have handles firmly fixed and points which may be sharpened. They will give excellent service and last for years, but they are expensive, costing 50 to 75 cents each. Your local hardware, art supply, or large departmental stores should be able to get them for you.

The next best tools are those sold ordinarily for lino cutting. The cutters look a little like pen nibs and fit into a wooden handle. They are bought separately or in sets. These inexpensive tools are most commonly used, but they do wear out after three or four years.

Fair results come from the home-made tools Grind down the wrong end of an old pen nib or piece of umbrella rib, put it in a pen holder and go ahead. Only one shape, the wide U, is possible, but it is capable of doing quite a variety of work.

Ordinary pocket knives are sometimes used but children working with these are really handicapped. It is hard for an experienced per-

son, let alone an inexperienced one, to do good work with a poor tool.

It is not necessary to have a large assortment of tools although in the sets there are usually five. When buying the carving tools separately, the V-shape and wide U-shape are the only necessary ones but a small narrow U-shape is also liked by many. The V is used for cutting outlines or doing line shading. The U is a gouge which clears out the wide background spaces. It is wise to let the children practise on scraps of linoleum so that they may find out what the tools are capable of doing.

The ink for printing the lino cut is rolled out on a sheet of glass about twelve inches square. The exact shape of the glass sheet is not important. A roller for the ink is absolutely necessary. Gelatine rollers are best but these are expensive. The small rubber covered rollers sold in photographic supply shops are the most practical if money is scarce. Any of them should last indefinitely.

Printer's ink is considered to be the best kind of colour to use. The local printer may be willing to supply a small quantity. If it comes in a can you may have difficulty in keeping the ink from drying on top when not in use. Try covering it with a little water, as this prevents evaporation from the ink. Pour off the water before using.

Turpentine or coal oil and rags are needed to clean rollers, blocks, glass, hands, faces and furniture. Never leave the ink on for long as it soon begins to dry.

There are water colour inks on the market which some teachers greatly prefer. They are easier to clean up since they are mixed with water and so wash off in it.

Poster paint may be used for printing. Sometimes water colour, mixed with paste or cooked starch to give it body, is used. These are not, however, as satisfactory as the inks made for the purpose.

Any fairly smooth absorbent paper will do for the printing, but some kinds are better than others. A slippery glazed paper is not very satisfactory. The ordinary school papers—cartridge, manila, and construction paper—take the ink well. Some of the best results are obtained on cheap newsprint. Rice paper, ordinarily obtainable from a dealer in art supplies, makes excellent prints.

If it is possible at all, use a press of some sort in which to make the prints from your blocks. An old-fashioned letter press may often be found in a second-hand store. It is good for this work and useful for bookcraft as well. An old wringer may easily be converted into an excellent press. Visit a sale or second-hand store for one. A little work is needed to get it ready for use. A press bed has to be made to move back and forth between the rollers. It is simply a flat board of three-ply material which is just the width of the rollers. It carries the inked lino block and paper and when the whole passes through the rollers the pressure transfers the ink from block to paper. Make your press bed about 18 inches long. Along each side of the top fasten a strip of wood about 1 inch wide and ¼ inch thick. These strips are intended to provide room between the bed and the top roller for the thick lino block. If you do not put these on, the block will stay nicely in place until it comes to the roller. Then it will be pushed along ahead of it instead of being rolled under. It is also well to make provision at the ends for preventing the press bed from running through too far. Do this by putting in nails or pegs of some sort at each end. Let them project ½ inch or so below but not on top. The rollers alone will not hold the press bed firmly enough. A little support, fastened by brackets to the wringer frame underneath the bed, allows it to move evenly over it.

Decide the size and shape of print desired. Trim the linoleum exactly to the size and be sure the corners are square. In some designs it will be found that the edges are not used either for the design or for placing it in printing, in which case this point does not matter.

Rub the surface of the linoleum block with fine sandpaper. The smoother it is, the easier it is to get a good print.

If your linoleum is dark coloured the tracing will not show well on it. In this case give it a coat of white poster paint, white shoe polish or other opaque white paint.

Make the design on ordinary paper, exactly the right size. Fill in with India ink. Be care-

ful to make an interesting pattern of light and dark patches of varying shapes and sizes. There lies the difficulty with many pictures or designs which do not look as interesting as they ought. Avoid use of fine detail. Figs. 98 and 99 were made one-third larger than the printed reproductions. On pictures it will usually be found best to make a black margin. Compare figs. 98 and 99 in this respect.

If lettering is included it is absolutely necessary to reverse the drawing so that it is backwards on the block. Then, when printed it comes right again. Lettering is easy to cut in one way, hard in another. Making cut-out lettering on a printed background is simple. It requires only two scoops with the tool to make the letter L, for instance. Just cut the L out of an area of linoleum by one long narrow cut for the side of the letter and another narrow cut for the base. On the other hand, if you wish to make a printed L on a cut-out background you must make six scoops with the tool and gouge away the extra linoleum from the surrounding area as well. One long thin cut is required to make the left side and one to make the right side of the vertical part of the letter. One is required for the bottom and one for the top of the base. Then a short stroke is needed to cut across each of the ends.

The kind of lettering used is important. Thick poster letters are easily cut in linoleum and are therefore good. Children frequently think only of the engraved old English or Italic commonly seen on Christmas cards. This is because they do not know any other kind to use or what is practical in this medium. No experienced person would think of using those types for linoleum for they are about the hardest possible kinds to cut.

To reverse the drawing from left to right hold it against the window with the back toward you. Trace the drawing on the back. Now consider this tracing as your design and forget the other one. Put carbon paper under it and carefully trace on the linoleum.

Paint in India ink or black poster paint the parts which were black in the design. These parts are to be left raised and are to print, while the parts which are now light are to be scooped out so that they will not print.

Now we get our tools and tackle the cutting. It is usual to take the V tool first and to cut outlines around the black parts. Then clear out areas with the gouge. Be sure to get clean edges in cutting and do not hack or tear the linoleum. Take care not to undercut the lines, rather have the cuts slope outward for extra strength. Fig. 97 shows the proper cross section of a line on linoleum.

In cutting, hold the block with the left hand and shove the tool evenly away from your body with your right. If you hold the tool pointing toward yourself you may get a nasty jab for it is very likely to slip. This will ruin the block too. A little practice will overcome this difficulty. A method developed by some is to keep the first finger of the left hand on top of the tool. Then if the tool slips you automatically clamp down with that finger, thus helping to stop it.

People vary greatly in their technique. Some clear out the backgrounds clean, having every line perfectly straight. Such work presents a very clean-cut appearance. Others get interesting effects by clearing out background spaces raggedly. The bits left standing here and there may help to break up an otherwise uninteresting space. Some of this will be found under the overhanging bank in fig. 98. Tones between white and black are obtained by making cuts of various kinds with the tools. These may be fine parallel lines, an all over pattern of jabs, short lines, etc. By the mixing of small areas of white and black intimately together, the effect at a little distance is gray. The number of grays which you can produce depends only on your skill with the tool. The cuts reproduced illustrate several ways of doing this, e.g. the tree trunk, distant field, lawn, roof, and shadow side of the house.

Wash the block in water and let it dry.

You are now ready to make a trial print. Put a little ink out on the glass and roll some in the centre until the roller is covered evenly. If the ink is seen to stick up in little points there is too much on it. In this case roll in a clean place or scrape ink off the glass. Roll the ink over the

block, being sure that every part receives a good coat. Avoid smearing background spaces, but if this happens wipe the parts with a cloth before printing. Put the block on the press bed of the wringer or on a large piece of cardboard for the letter press. The paper is now placed on top of the inked block. Hold your paper poised 1 inch or so in the air until you are certain of its correct position. Then drop it. Over this put another piece of paper, a blanket or piece of cardboard. If you use a letter press you may find that pressure is not even all through the press. If this is so, study its peculiarities and work accordingly. It may be necessary to slip the block and other layers in twice in different positions to get a good print, for sometimes you get pressure only in the middle of the press. To print, screw the letter press down tightly, pause, and unscrew. To adjust the pressure on the wringer press you have the screws at the top used for the same purpose in laundry work. Experiment until you can get satisfactory prints.

If no type of press is available it is still possible to make prints but thinner paper is needed. The rice paper is particularly useful here. Simply put the inked block face up, rice paper next and a slightly heavier piece of paper on top of all. Use the bowl of a spoon to rub the paper, lifting a corner now and then to see whether any parts are being missed. One may also print by standing on the block if it is backed with wood.

In each case remove the print and allow it to dry. This will require overnight if printer's ink is used, but only a short time with water colour inks.

It may be found that some of the background areas have printed unexpectedly. To overcome this in future prints take your tool again and scoop those areas a little deeper. Sometimes with a stubborn spot we resort to wiping it with a rag after each inking, or to the use of a mask. To make a mask take a print (an imperfect one will do) and with a knife cut out all the printed patches. Turn the part which is left over on the block. It should fit over the background allowing all the raised parts to come through the holes. After each inking this mask is slipped in place before the print is made.

After the first print has shown what corrections to make, ink the block a second time and go through the whole process of inking and printing as many times as you wish prints.

Areas in the print may be coloured with water or poster colours. This adds to the effect, particularly in the decoration of Christmas cards.

When finished printing, thoroughly clean all inked surfaces with turpentine or coal oil. Be sure the ink can is tightly covered.

References

Barker—Progressive Lino Cuts. Pitman.

Dobson—Lino Prints. Pitman.

Doust—The Art of Lino Cuts. Warne's Arts and Crafts Series.

Lemos—Block Printing. Davis.

Perry—Block Printing Craft. Manual Arts.

Polk—The Essentials of Linoleum Block Printing. Manual Arts.

Sprague—How to Make Linoleum Blocks. Bridgman.

CHAPTER 18.

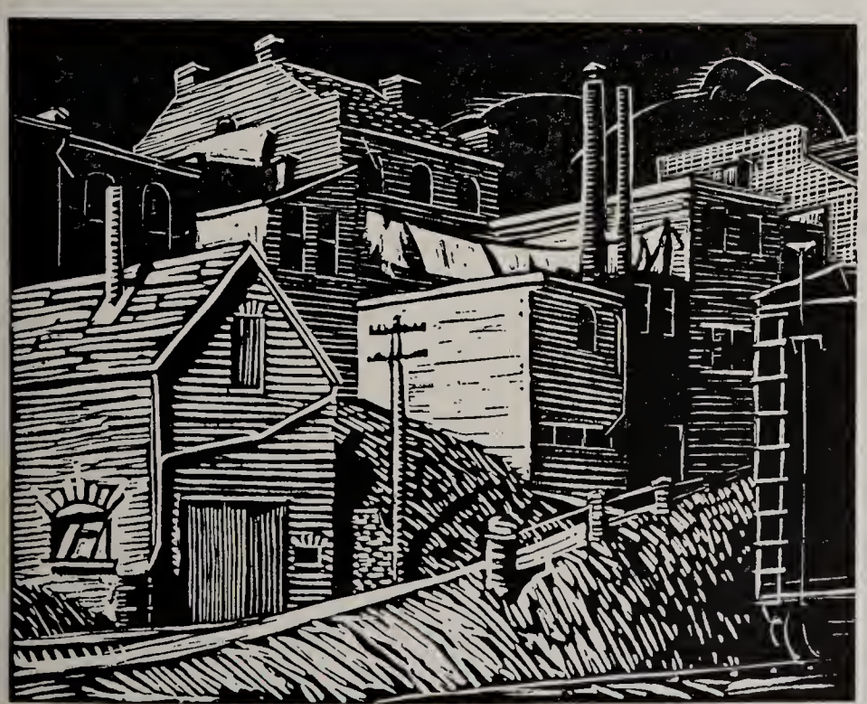
Woodcuts and Engravings.

Not often is wood engraving introduced into the classroom but there is no reason why it should not be attempted by children who have a desire to progress beyond the lino block. The process and equipment are essentially the same as for lino work, and the uses for the prints are also the same.

The finished engraving is bound to be finer in detail and stiffer than the lino cut owing to the hardness of the medium. The work on

98

99



100

101

wood is more difficult chiefly because it takes more strength to push the tool in cutting the block.

Schools may purchase prepared blocks from art supply companies but it would be foolish to do so at first. A lumber dealer can probably supply dry blocks of maple or boxwood about 1 inch thick. End grain is used for wood engraving. If ordinary boards are used the result is called a woodcut. Such woodcutting is done with carving tools, and, as the medium is coarse, the work does not differ from lino cutting.

The surface of the block should be sandpapered until it is very smooth, and then well soaked in linseed oil, to which some gasoline and brown Japan dryer from the hardware store, have been added. To do this, paint the surface liberally and allow to stand for a week or two. It is better still to soak the surface in oil and let the block stand for some months. The purpose of this soaking is to make the wood cut cleanly. The block has to be sandpapered again until absolutely smooth, for very small imperfections will show on the engraving.

It is necessary to have at least one wood engraver's tool. A good general purpose one has a narrow U-shaped end. It should be kept well sharpened.

Transfer the drawing to the block as was done for lino cutting, and cut the block in the same way. Fig. 100 has too much work in it for most children but will give an idea of effects possible to obtain. The measurements of the block were one-third larger than those of the reproduction.

The printing may be done by hand or in a press using printer's ink and paper in exactly the same way as was done with linoleum. It is not hard to print with these blocks.

References

Doust—A Manual on Wood Engraving. Warne.

Fletcher—Wood-Block Printing. Pitman.

Gilham—Printing, A Craft for Schools. Pitman.

Lankes—A Woodcut Manual. Holt.

Lemos—Pictorial Block Prints. Davis.

CHAPTER 19.

Dry Points.

Thus far the types of printing which have been described have all belonged to one class—that in which an impression is made by means of raised surfaces.

To another class entirely belong dry points and etchings which are printed from grooves cut in the surface of printing plates. Etchings have grooves started by a tool, then bitten deeper with acid. The dry point gets its name from the fact that only a sharp steel tool is used in making the grooves. The dry point is frequently confused with the etching but it is not hard to distinguish between them when the method of making each is understood.

There is no reason why older and more proficient children should not try making dry points if there is a press available on which to print them. Pressure by the hand methods used for lino blocks are useless here. Given the press, dry points are not more difficult to make than any fine drawing.

This time you are dealing with a medium which does permit fine detail. But there are only lines of varying widths and depths with which to get effects. There can be no gouging out of areas as was done in the lino block. It is like making a drawing in pencil outline.

The plate used for the dry point is a sheet of zinc or, more commonly, copper. Some artists use pewter which is a very soft metal. For our purpose we might get scraps of these metals in smooth sheets from a tinsmith, with the exception of pewter, which must be ordered specially or bought from a large hardware company, as few stock it.

The tool may be a school compass sharpened

to a good point. For a better one, visit your dentist who may have discarded tools of the sort used to explore one's mouth. These will be of many shapes but each may be ground down on an emery wheel to a sharp point. There are, of course, real etching tools on the market but they are not much better than the dentist's tools for our purpose.

The plate must be clean and very smooth. Fine emery paper or cloth, fine steel wool, or powdered pumice may be needed to clean off spots or little scratches.

Draw the design exactly the same size as the plate and transfer with carbon, or draw directly on the plate.

Experiment with the tool at first, then draw the lines, digging a little trench as you go along. This throws up a roughness along the edges which is called a burr. Remember to work as if you were making a pencil drawing. To make a dark line press heavily and for a light line press very little. You can shade only by means of lines drawn side by side like the line shading used in pencil work. Let the direction of these lines follow the shape of the object. The lines may vary in depth and in distance from each other just as those shown for lino cutting. The heavier the lines and the closer together, the darker the tones.

When the plate is finished rub some printer's ink over it with a pad of cotton or your fingers. Ink thoroughly into the lines. Now take a cloth and rub most of it off. It is the ink left in the burr of the lines which is to print. Some artists rub their plates quite clean while others like to leave a little ink on the surface to make a gray tone. To do this inking well takes practice.

Warming the metal plates helps them to print a little more easily. After inking place them on the radiator or near the stove for a minute or two.

The paper used for printing may be a smooth water colour paper or other fine textured paper with a fairly absorbent surface. Glossy papers will not do. The paper should be dampened by laying it between wet sheets of paper for an hour or two.

For the printing, a wringer press will do if we take out the press bed used for lino cuts and put in just a flat board. A letter press will work if wound down very tightly. Put a pad of felt, flannelette, or old blanket on the board. Then put the plate on it, face up. Next comes the damp sheet of paper and a cardboard top. Another blanket may be put on top if needed. Run through the press.

When you take out your print you may find that more pressure is needed or less. Adjust it until printing is satisfactory.

The inking and printing process is repeated until enough prints are made. Then clean all the ink from the block with turpentine or coal oil.

REFERENCE

Barry—How to Make Etchings. Bridgman.

CHAPTER 20.

BOOKPLATES.

IT has long been the custom for people who treasure their books to have a small sign of ownership pasted inside the front cover of each volume. This is called a bookplate.

The size varies greatly from about 1½ inches by 2 inches up to 4 inches by 6 inches and need not necessarily be in those proportions. In planning the plate the size will depend on what will look well in the largest and the smallest books of the owner.

A bookplate should be a personal thing, which means that it should express something of the personality of the one to whom it belongs. The artist who makes his own bookplate cannot help expressing himself in his work. In olden times the owner's coat of arms was used on the book-

plate. Now we symbolize an outstanding characteristic of the person or something from his history. A musical person might use an instrument as a symbol. One who is fond of a garden might use a conventional plant design. A small boy who makes his own design may draw a picture of the rabbit of which he is very fond. It should be pointed out, however, that a small bookplate should not be overcrowded with symbols to give a complete picture of the person's interests.

Always in addition to the symbol, a bookplate contains the owner's name because its purpose is to identify his books. In common use, as well, are the following phrases: "Ex Libris", "From the Library of", "From among the Books of", "His Book", or "Her Book".

Bookplates are very convenient to use if printed on gummed white paper. They are then cut out and stuck directly in the book. Otherwise they are printed on ordinary smooth white paper and are pasted in. Bookplates are placed on the inside of the book's front cover.

The plates may be printed by any method previously described. Lino blocks are best of all, but we may use wood blocks, stencils, silk screen process, or dry points. The general directions given for each of these processes will enable the child to make the plate and print it.

Fig. 101 is a lino cut plate for a boy. This is of the more pictorial type preferred by many, but the design may be as decorative as the owner likes.

CHAPTER 21.

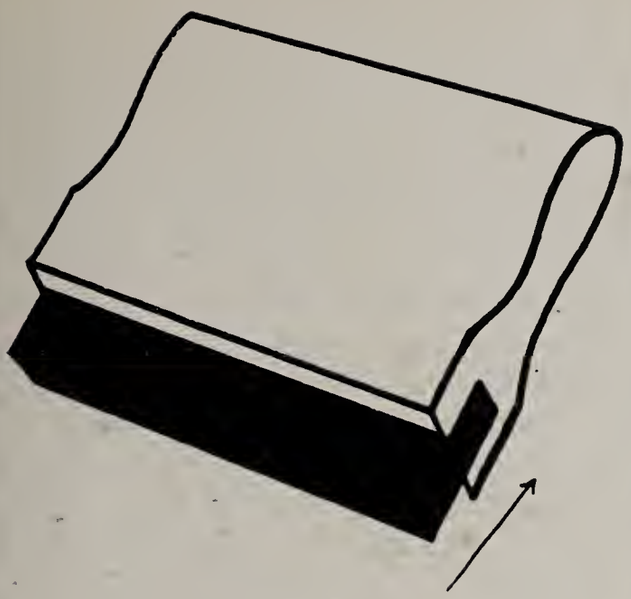
Silk Screen Process.

The silk screen process is probably the easiest method of printing yet come to light. It is already popular commercially, and after experimenting with it in senior classes you will no doubt agree that it is suitable for a number of school purposes. It is excellent for school posters, for making all-over repeats on paper or cloth, for the cover of the school magazine, for Christmas cards—in fact, for anything which requires a method of repeating a pattern over and over again.

First of all a rectangular frame is needed to hold the silk screen. It may be of any cheap wood—strips 1 inch by ½ inch will do nicely. The frame should be about 2 inches longer at each end than the design to be printed, and 1 inch wider at each side. If we were printing a poster 9 inches by 12 inches the frame would be at least 11 inches by 16 inches. The extra space at the ends is to allow the paint to be piled up there during the printing. A discarded picture frame may be used for the work if nothing else is available.

The screen is a piece of thin silk or organdy stretched tightly over the frame. The special silk screen sold for the purpose is best, of course, but a good fine organdy gives excellent results if no small lettering or other detail is included in the design. Artists' supply dealers and some school supply firms are able to furnish the silk screen and other necessaries for the work.

Material is needed to fill the screen mesh in places where it is not to print. This is called a filler. It is possible to buy a substance called Profilm which is commercially used, but teachers may prefer something cheaper. Shellac and lacquer both serve the purpose excellently. The lacquer may be either the clear kind or the coloured brushing lacquer used in finishing furniture. Any type of paint may be used for printing when these fillers have been applied and the cleaner will do no harm. Other quick-drying paints should not be used as fillers because they will be dissolved if turpentine or benzine are employed later in cleaning the screen. If poster paint is to be used for the printing, ordinary varnish or paint may be used as a filler, as the poster paint may be washed



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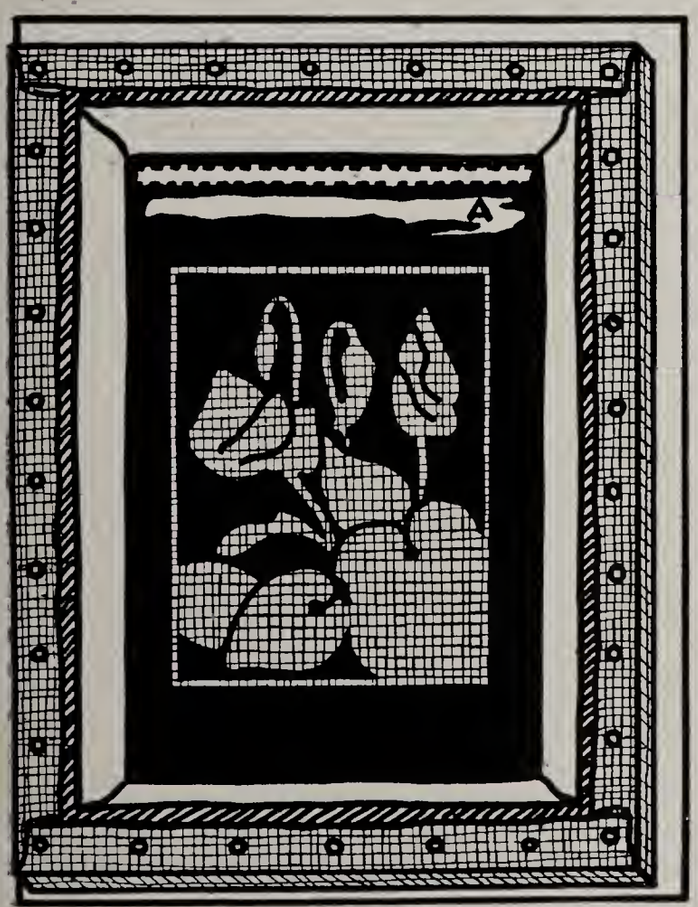

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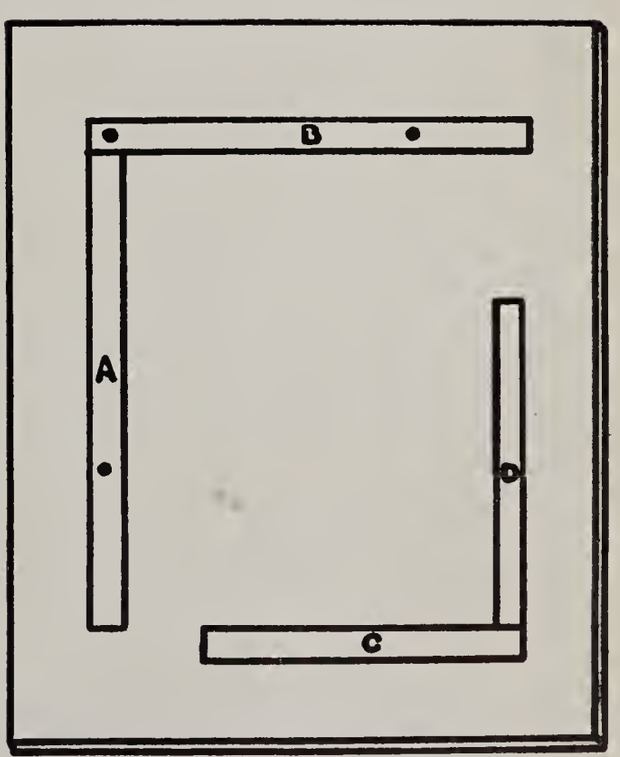

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from the screen with water, leaving the filler intact.

A rubber squeegee is needed for the printing. It is just a straight block of hard rubber fastened to a handle of some sort. The rubber might be ⅜ of an inch thick, 2 inches wide and long enough to go across the screen. This latter point is important because it means that only one stroke is necessary to a print, and more even results are thus obtained. A piece of hard rubber should not be difficult to get, but make sure that the edges, other than those fastened into the handle, are square and straight. A strip of thick linoleum makes a very good squeegee. Fig. 102 shows a squeegee and the angle at which to hold it.

The colours used for printing may be mixed with water or with oil, but in any case must be very thick. If you have dry poster colours you will have no trouble getting them thick enough. They should be like paste, scarcely running off a spoon. It is a good deal less expensive to mix a little whiting with the colours instead of white poster paint. It may be bought from any hardware dealer.

Of the oil colours, the best is a kind made for the purpose. It looks like ordinary paint but is very thick, dries quickly and with a dull finish like poster paint. One might try using ordinary housepaint by adding whiting or white lead (to thicken it), and Japan dryer. Printer's ink will do, but goes on very thickly and needs a dryer. These paints do well for one-colour work but would be unsatisfactory where several colours are used because they dry so slowly.

Turpentine or benzine is needed for cleaning the screen and tools where oil colours are used. Clean the brush used in applying the filler with wood alcohol.

Almost any kind of paper may be used for taking the prints—glossy, dull, very flat, or somewhat rough. Wood, metal, or cloth may also be used.

Having the materials ready, we start the actual work. First we make a design which may be printed in one colour. We make it exactly the size we want it, and fill in solidly with India ink the parts which are to print. Fig. 103 shows a design done in this way. Designs which are poster-like in quality are very effective.

Now take the frame and the screen. Have the silk large enough to come up around the sides of the frame. Tack one end securely with thumb tacks. Then turn to the opposite end, stretch the material tightly, and tack. Put two or three tacks in one side, then two or three in the other, and so on, until it is finished. In this way you keep the weave of the material straight.

Now lay the frame over the design with the screen touching it. Trace the outlines with a pencil.

Take a fine pointed brush and the shellac or lacquer. Apply the filler to all those parts which are not to print—that is, to the white parts of your design. You will find that you can spread the filler easily. It is necessary to hold the frame slightly off the table as the filler runs when it comes in contact with anything. A small block used to prop up one end of the screen will allow the light to come through from underneath. Be careful not to press much on the screen. Put the screen to one side for a few minutes to dry, although the filler will likely dry about as fast as you put it on. Hold it to the light and see whether the mesh is all filled where it should be. A second coat will very likely be needed, especially with the organdy.

After the filler is dry, take a strip of adhesive tape, electrician's tape, or gummed paper, and stick it to screen and wood around the inside of the frame, covering the cracks into which the paint may get. This makes the screen easy to clean.

The next process is the printing. Fig. 104 shows everything in place, ready. Put your paper on a drawing board or the table and rest the screen on top in the proper position. Mix the paint if need be. Then take a spoonful and put it in a line along the end of the screen at A, outside the design. Take the squeegee in the right hand and put it down between the end of the screen and the line of paint. Its position is shown by dotted lines. Hold the frame firmly with the left hand and pull the squeegee with some pressure toward you over the design. Scoop up the paint on the squeegee at the end of the frame and put it back in its original position again. One stroke should be enough

for a clear print. If it is not, go over it again. Pull the screen off the paper and remove the print. Put in another piece and repeat as often as needed.

When finished, clean the screen and squeegee thoroughly as explained earlier in this chapter.

If you wish to do printing with two or more colours, there are two ways in which it may be done. One method is to have a separate screen for each colour. Then the screens could be kept and used again and again whenever needed. The making of these separate screens is like making stencil plates for several colours. Refer to that explanation keeping in mind that your mask over areas which are not to be printed is now a coat of shellac or lacquer, instead of brown paper.

The other method is to use only one screen. Make the screen as described for one colour printing, blocking out the parts not to be printed at all. When that is done and printed a sufficient number of times with one colour take your filler again and block out all the parts which are to be left in that first colour. They receive no more paint. Print now with the second colour over parts of the first one. Block out parts which are to remain that colour, print the third and so on having finally only those parts left open which print in the last colour. Some parts have received no paint, some one layer, some two layers, some three layers, up to the number of colours used. It is usual to print the darkest colour first, then the next lighter one and so to the lightest last. The disadvantage of this method is that, when one batch of prints is finished, the screen cannot be used again.

One point has not yet been mentioned with several-colour printing. That is the very important matter of registering the plates. In tracing the various plates for the first method it is necessary to put each successive frame in exactly the same position over the design. The whole thing is easiest done in the following way.

A piece of wall board, wood or heavy cardboard makes the bed of the printing press. On that tack two strips of wood or cardboard as you see them at A and B in fig. 105. These must be accurately at right angles to each other. Into this corner your frame is to fit each time for tracing and for printing.

Now suppose your design is drawn on a piece of paper in exactly the position in which you wish it to be when printed. The size of this paper must be the same size as the finished prints. Slip the design under the frame in the corner. The size of your frame and of your design will determine the next part. If the frame is large and the design smaller, it may be enough to slip the paper accurately into the same corner. In some cases it may be necessary to keep the paper out of the corner a little way so the design will not be too near the edge of the frame for printing. In this case, adjust it to a suitable position, then paste or tack two strips of thin paper to make a corner into which the paper may fit each time. See them at C and D in the drawing.

Now put the design and frame into their proper places and make the tracings.

When we are ready to print we repeatedly slip the paper into the corner C and D, and the frame into A and B. Then if the work is done accurately there is no reason why the colours should not be in the right places.

Reference

Leaflet No. 103—Colour Printing by the Screen Process. Dryad.

CHAPTER 22.

Bookcraft.

In the course of their school careers children often find themselves in need of a special book to hold some particularly interesting piece of work or collection. What child does not thrill at the sight of clean white pages spread out in front of him just waiting for the record of his ideas?

The younger children may make picture collections of such things as child activities, pets, flowers, and leaves. Books of health and safety

rules, and illustrated books of story and verse may also be made by juniors. The intermediate children make collections of pictures of all kinds. They make story and verse books, magazines, diaries, and collections of plays and songs. The senior children are interested in magazine clippings of costume tips, cooking, sewing, and embroidery, or in the types of crops grown in the community. A local history is an interesting project and may have real value if carefully done and made a permanent part of the school library. In schools where money is particularly scarce the children may do a great deal by making collections for the library. These should be carefully bound into attractive books for the sake of preservation and appearance.

For the pages of such books it is usually necessary to use the cheapest paper possible. Wrapping paper, newsprint, unlined exercise books, writing pads, manila and cartridge drawing paper are usually available. The purpose of the book and the number of pages needed determine which paper it is best to use.

For the covers of most books there is nothing better than ordinary construction paper. For better books, bristol or cardboard may be bought, but it is cheaper to use waste cardboard. Cover it with cloth or thin coloured poster paper such as that sold by some school supply firms.

The books described are arranged roughly in order of difficulty ranging from those suitable for the primary children to the more elaborate ones for the senior grades.

The simplest book may be made by folding sheets of paper double and tying a cord or ribbon around the whole fold. The next step would be to punch two holes in the fold with a darning needle and pull the cord through, tying on the outside with a knot, or inside using a square knot. Fig. 112 shows a loose one. Snip off the ends to within an inch or two. A slightly more complicated way of tying the book is shown in fig. 111 and in cross-section in fig. 106. The knot may be placed on the outside or the inside. This method of tying is a favourite because it holds the book more firmly than other methods.

Remove the wire stitches from old magazines. Straighten them so that the two prongs stand up vertically. Push the prongs through the crease of the book from the outside. Press down with a flat tool on the inside. These stitches are excellent for the binding of a booklet as soon as the children are able to handle them.

Try a loose-leaf book this time with a soft cover. Take loose sheets of paper, pile neatly and put a coloured cover paper on the top and on the bottom. These should be exactly the same size as the pages. Older children let them project a little all around. With a paper punch make holes about ¼ inch to ⅜ inch in from the back edge. A few pages may have to be done at a time and in that case do the cover first, slip a page under it evenly and punch through the same holes. Slip another under it, get the two even at the edge and punch in the same holes. Continue this until finished. Put the pages together and slip a cord through the holes from the back to the front. Tie. If three sets of holes are punched the method of tying in fig. 106 may be used.

A step in advance of the last book would be a loose-leaf one with a hard cover. Take a piece of cardboard or strawboard for the top and one for the bottom. These should be ¼ inch longer and wider than the pages. Thus the covers will project ⅛ inch beyond the pages all around. Cut two pieces of coloured paper or cloth 1 inch longer and wider than the covers. This allows ½ inch to turn over on each edge. See fig. 107 which shows how to cut off corners and cover the board. Fig. 108 shows how to put on the paper lining, which should be cut a little smaller than the covers. When the covers are lined put them under a heavy weight until dry. If you have a letter press put them in it. After the covers have dried, punch holes ¼ inch to ⅜ inch in from the edge and in the pages to correspond. Fit together and put in metal rings.

This time try a loose leaf book with hard covers and cord. This would make a very rigid book if we did not hinge the top cover. The back cover and pages are handled just as they were last time. But instead of using a full-sized piece of strawboard for the front, use a strip 1 inch wide for a hinge, allow ⅛ inch gap,

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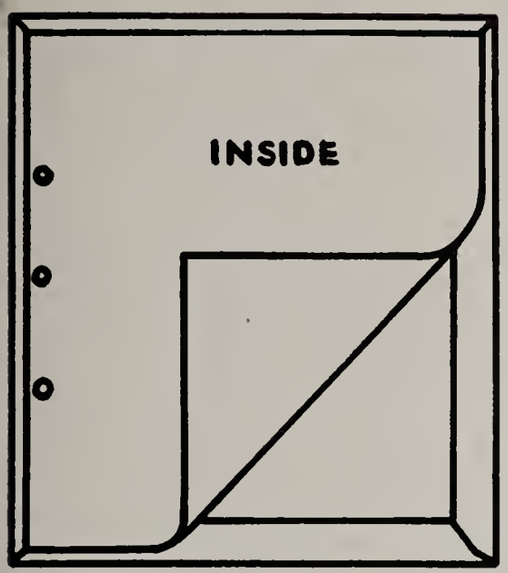

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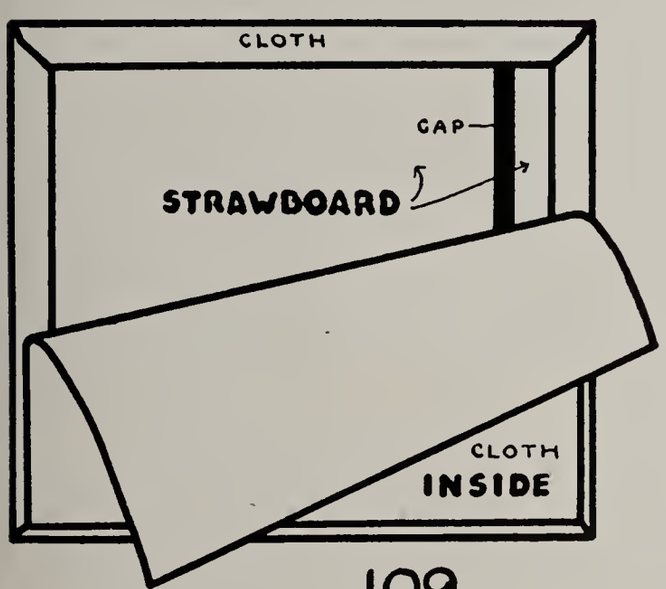

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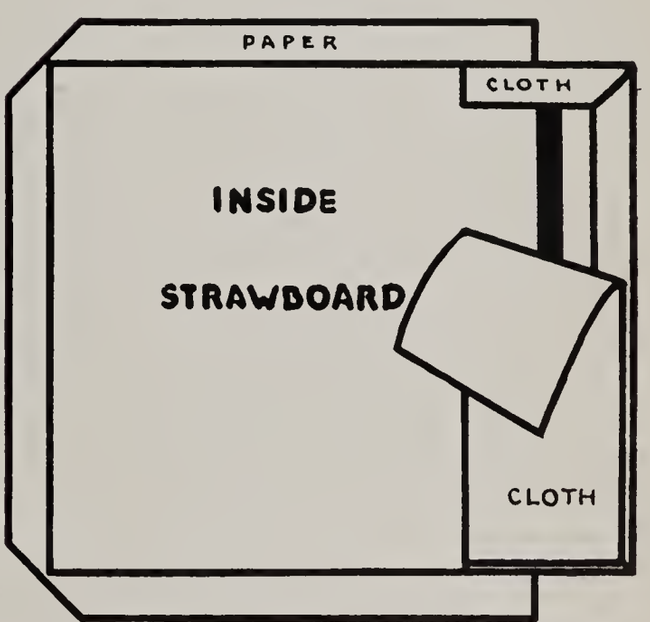

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and use a large piece of strawboard to fit over the rest. If you are covering with cloth simply cover the two pieces of the front together as in fig. 109. If the covers are of paper, a longer wearing hinge would be made from bookbinder's muslin or other cloth. A strip of muslin is cut about 2½ inches wide, and 1 inch longer than the book. Put it on the outside of the hinge, as in fig. 110, cut off the corners, lap the edges over, and line with a muslin strip about 1½ inches wide. Now cover the rest of the board with paper allowing the latter to overlap the muslin just to the hinge. Line as usual, but again, just to the hinge. Put in the press or under books to dry, then punch the holes, assemble the parts, and put in the cord as desired.

Suppose we turn our attention to a different method of binding pages together. Take four or five sheets of paper and fold them. Now you need a piece of bookbinder's muslin, or if you cannot get that, a piece of factory cotton may be used. It needs to be from 2 to 3 inches wide and nearly as long as your pages. Fold the muslin down the centre the long way, and slip over the back of the pages. Now take a needle and heavy thread, such as No. 10 cotton, and sew the backs as shown in fig. 106 and in fig. 111. Pull the threads tight and tie a square knot in the manner of fig. 112. If your book is long, more secure sewing can be done. Follow the method of fig. 111 but between the middle and each end of the pages make another stitch in and out.

Let us make the book cover of cloth this time. Use a piece large enough to fit the front cover, the back, and the back cover, besides allowing an inch or more all around to fold over. Use strawboard or other cardboard as a foundation for the cloth to make it stiff. These should be slightly bigger than the pages.

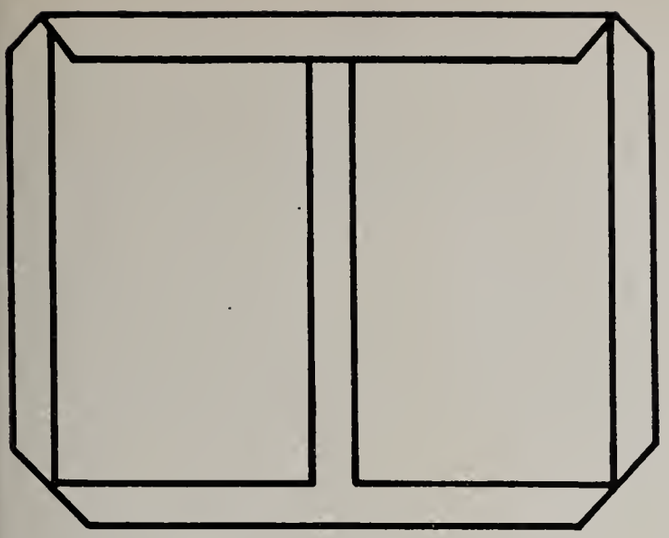
Paste the cloth to the strawboards as shown in fig. 113 allowing at least a ¼ inch between them for the back.

Now put the page section in and paste the muslin down on the strawboards. This is shown in fig. 114. Now instead of the usual lining for the covers, use paper twice the size of the pages. Fold double and paste one half down to make the lining of the cover while the other is free, except for a strip about ¼ inch wide along the crease, which is pasted to the first page. (The dotted line in fig. 115 shows how far the paste comes). These double papers are called end pages. They are always used in real books and are quite often covered with all-over patterns. Fig. 115 shows these end papers in place. When it is finished, put the book under a heavy weight to dry.

If you wish to use paper instead of cloth to cover this last book, follow the same steps except that a strip of cloth 3 inches wide and 1 inch longer than the length of the book is used to make the back. Paste it to the strawboards leaving the ¼ inch gap as before. Fig. 116 shows these in place and one end pasted. Then put on the paper cover as usual, but let it overlap the cloth just to the edge of the stiff boards. Or, for a different effect still, have the paper covers come just within an inch of the edge of the stiff boards.

Real books are often made by using tapes instead of the strip of muslin down the back. The tape used may be the ordinary household kind from ½ inch to 1 inch wide. If you have no tape, use strips of strong factory cotton instead.

This time we might consider the making of a book containing two or three sections. A section is made by folding a large sheet double (folio), folding it again the other way this time (quarto), and folding it again (octavo). Which fold you use depends on the size of your paper and the size your book is to be. Do not trouble to cut along the folds just now. Sometimes the pages are not all cut when you buy books from a store. Divide the length of your book in four and make holes with a needle ¼ inch on each side of the divisions (for ½ inch tapes), also ½ inch in from each end. Then take a double thread of fairly coarse cotton or linen, and sew in and out as shown in fig. 117. Cut the tapes 2 inches long, plus the thickness of the book. Slip in the tapes as you see them in the drawing. When you come to the end, put the second section on top and sew in the same way. When you come back to the beginning tie the thread to the loose piece there. Now put the third section in place and sew to the other end. Having



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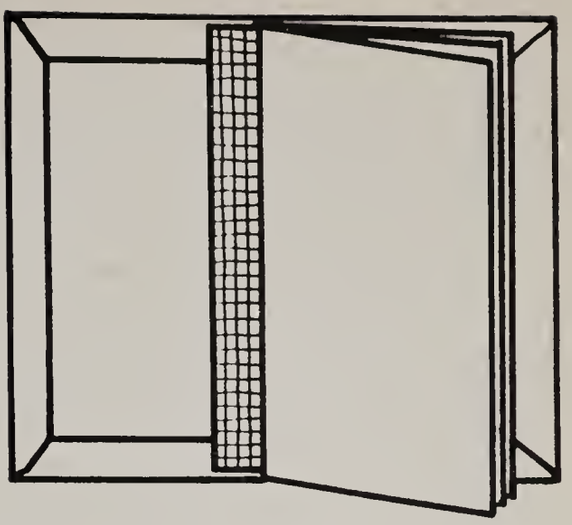

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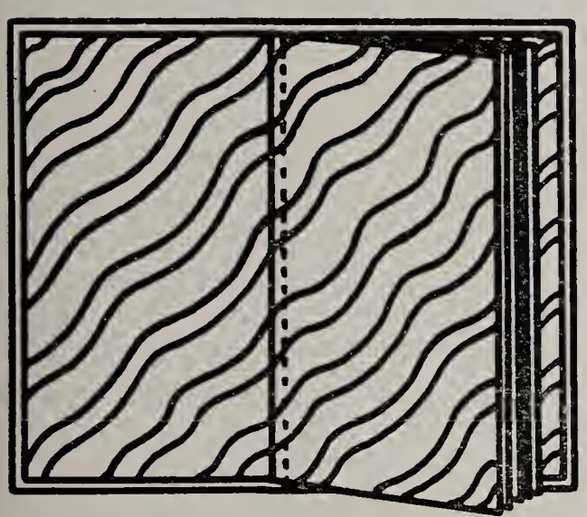

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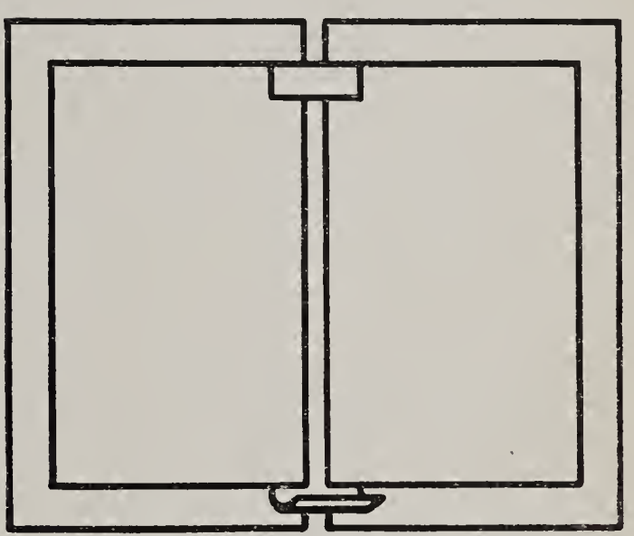

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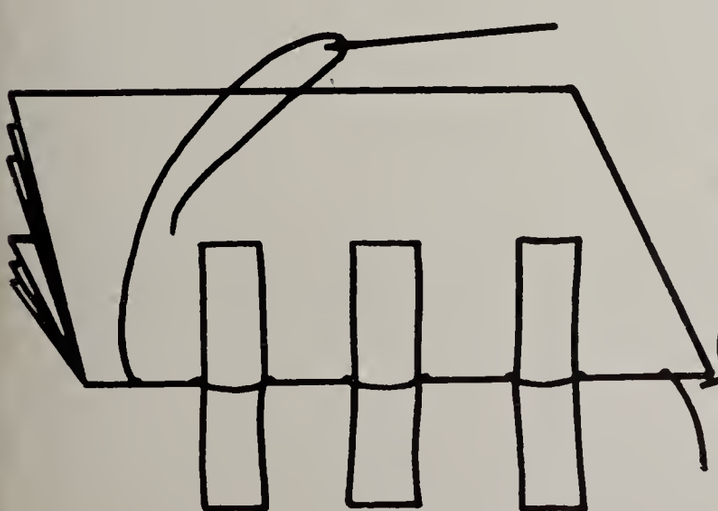

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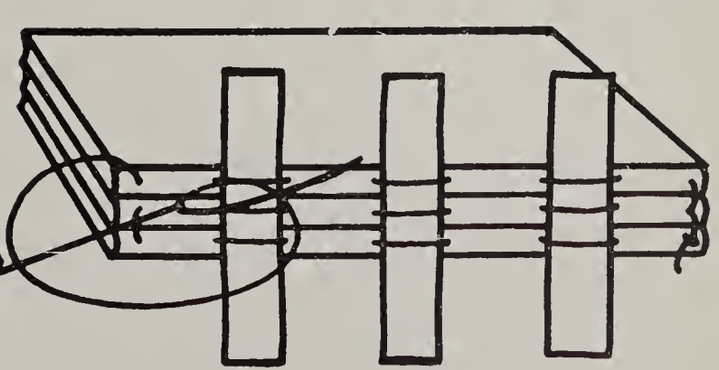

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arrived there a bookbinder would slip his needle under the last stitch between the first two sections making what we would call a buttonhole stitch. He calls it a kettle stitch. This holds each section tight to the preceding one. If there were more sections they would be sewn in this same way over the tapes. Finish off with two or three kettle stitches in one place for safety. Fig. 118 shows the three sections in place and the needle in position for making a kettle stitch. Now cover the back with glue or good paste, letting it get into the cracks. You may curve the back of the book a little—like a real book. Put under a weight until it is dry.

You may put in one or two linings for the back of the book to give extra strength. A piece of thin cotton may be glued over the back of the sections and allowed to project out on both sides as far as the tapes do. This lining should be a little shorter than the back of the book so that you do not have to worry about the ends. The other lining may be of brown paper or any fairly stiff paper. It is cut a little narrower than the back of the book and the same length. When making the cloth covers, this lining is pasted between the front and back covers where the back of the book is to be. The rest of the process for this book is the same as for the last one except that you have tapes and cloth to paste down where you only had cloth before. Finish by putting it under a weight for two or three days.

If you have magazines which you wish to preserve they might be bound in the same way, putting three or four in one book.

In our progress through the different stages in bookmaking nothing has been said about the ornamentation of the book. Of course it will have lettering or decoration, or both. There are many suitable ways for school children to decorate booklets. Here are a few, old and new. Print the name of the owner and the title in single stroke alphabet with pencil or crayon. Add a picture or design in cut paper or crayon. Try simple all-over patterns with crayon as described in Chapter 1. An old wallpaper sample book will yield cheap book covers but they are none too tough. Finger painted papers may be used for book covers. See notes on this topic. The name should be put on top quite heavily. Use cut paper or drawn borders. The name, of course, will appear somewhere on the front, in print script preferably. Pictures may be cut out and pasted on. If this is done, it should be possible to develop some knowledge of placing of the picture and lettering to go with it. This matter of placing is important even from the first year. Chapter 35 might help at this point.

The layout or arrangement of the cover design is vitally important. Have the children study the covers of books and magazines for suggestions. Some help may be obtained from the section on lettering.

We may gradually develop the lettering for the cover from the single stroke in the lowest grades, to thicker poster letters, cut paper letters, fine Roman lettering and other more difficult kinds. In the higher grades a variety of ways of making patterns is open to the student and these may be used for book covers and end papers. Lino cuts, potato cuts, pen and ink patterns perhaps with ball-pointed or manuscript pens, batiks, embroidered canvas, stick printed patterns, stencilled patterns, as well as the usual designs in poster paint on papers, may be used. This list surely gives sufficient suggestions for an unusual and original cover.

End papers should be less bold in colour and tone than the cover. These designs are frequently carried out in one or two comparatively weak colours on white or coloured paper, or in light and dark tones of one colour.

Suppose the children were binding a book of their poems or stories. They should study the following parts and use as many as they think best.

(1) A book has a frontispiece which is on the first or second left-hand page after the end page. It is the first full page illustration and is intended to give one a good first impression of the book.

(2) Opposite the frontispiece, always a right-hand page, is the title page. It gives the title and the author's name more fully than the cover does, and a small design is generally included. It seldom has colour on it except in some ex-

pensive books. The publisher's name is always put at the bottom of this page.

(3) On the next right-hand page is the preface or introduction, which tells the purpose of the book.

(4) A table of contents is a necessity and it is always a right-hand page. After it the first chapter begins, always on a right-hand page.

(5) Many books have small drawings for the beginning of chapters or page headings. These same books use tail pieces for ends of chapters or the bottom of each page. In other books there is just one chapter heading and a tail piece at the finish.

All of these features will not be found in the children's little books, but attention to these points in bookcraft work will awaken appreciation for well-bound and well-illustrated volumes.

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Mason—Bookbinding. Warne.

Pratt—Let's Bind a Book. Bruce.

CHAPTER 23.

Textile Work.

Designs may be put on cloth in a number of ways. Some of these are simple enough to be used in school with intermediate or older girls and will give the children a good understanding of methods of making commercial goods. Embroidery is well understood by most women because it has been included in a girl's education for a very long time. Unfortunately at the present time few think of making an original design to be embroidered, as it is so much easier to buy designs from pattern manufacturers.

Girls who are interested in sewing might like to try designing for simple embroidery stitches. For example, very simple geometric patterns, such as that in fig. 119, may be laid out on squared paper, then carried out in cross-stitch on a cloth with very coarse but even threads. Gingham with small checks is very good for this work if a pale colour is chosen and the design is worked in a deep colour.

Very simple and effective cross-stitch patterns are now being shown in the shops. These are suitable for girls to work because eye strain is avoided.

The work differs from ordinary cross-stitch only in the brilliance of colours used and coarseness. Three or four ply wool, rope silk, or six-strand embroidery cotton used whole are suitable. The crosses are about ¼ inch square. Coarse crash, linen, towelling or factory cotton are used for making a variety of household articles, such as luncheon sets, table mats and runners, aprons, cushions, laundry or clothes pin bags, etc.

When we make our own designs they are first drawn and coloured on squared paper since the square is the basis of cross-stitch. Geometric designs are simple to put on squared paper but other types are more puzzling. Draw the irregular shape as simply as possible on the paper like the leaf in fig. 120. Then go around with your pencil, as near your outlines as you can, but following only the edges of squares. You must use only whole squares.

Once the designs are made there are two methods of transferring them to the cloth. First we may make the design on squared paper, just the size we wish it to be, and then we may trace it on the material with carbon paper. The exact length of stitches is going to depend entirely on our tracing so it must be accurately done. This method is more suitable for transferring a design to fine than to coarse cloth.

The second method is to use a piece of coarse canvas (sold by department stores for the purpose) and to baste it over the material where the design is to be. You do not trace your design on the canvas at all, but you do refer constantly to it to see how many crosses to make in a certain direction. Then count them out on the canvas and make them. Fig. 121 shows how work of ordinary size is done on canvas, while fig. 122 shows how larger crosses are made on the same kind of canvas. Notice that you skip one thread each time in the first kind, but two in the second. If you are working without canvas it is wise to use embroidery hoops so that threads cannot be pulled too tightly. The actual making of the crosses may be seen in figs. 121 and 122. It is only necessary to remember that the top stitches of all the crosses should run in the same direction. After the crosses are all made on the canvas, pull out the bastings. Then pull out the threads in the canvas, one at a time. You may feel that the work looks too loose but washing will correct that. This method helps to avoid the common error of pulling the work too tightly.

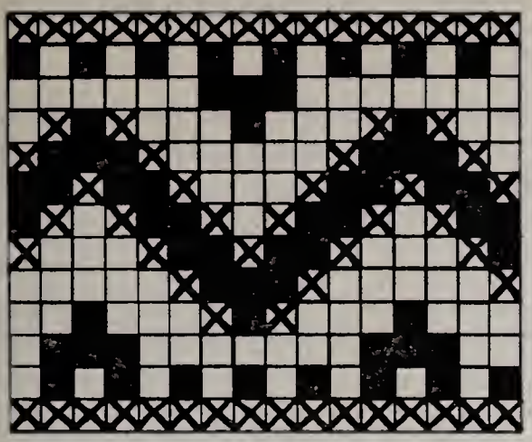
Several other kinds of embroidery and home crafts are simple enough for girls to do. Cross-stitch has been given a good deal of space here because designing for it is easy. The girls should be encouraged to make designs for lazy daisy stitches, outline or chain stitch, if they are interested in using them.

Appliqué lends itself well to decorative purposes. Designs for it are easy to make, and the result is effective. For the uninitiated it should be explained that appliqued designs are patches, usually of cloth, cut to represent flowers, leaves, etc. These are basted on cloth and then finished by buttonholing around the edges. The buttonhole stitches may be fine or coarse, and are made to add to the design. For example black outlines are given to all parts of the design by the use of black embroidery cotton. The materials used are cotton of close weave, felt or oilcloth. There is no difference between this work and that of cut paper designing, except the necessity for sewing instead of pasting, and the use to which the finished article is put. A good way to plan the design is in cut paper. Then trace the pieces on cloth, and cut out. Felt is best cut with a sharp knife. Oilcloth and felt do not fray and so require only enough sewing to hold the pieces in place. For some purposes gluing will do. Appliqué on cloth is used on clothing, curtains, cushions, towels, pillow slips, table pieces, etc.

Felt makes very good cushions, bags, table mats, belts, hats, and trimmings. Belts are especially suitable for girls to make as little material is needed and the work is quickly done. A border design of felt pieces is sewn on a band of felt about 2½ inches wide. The ends may be fastened together by lacing, or with fasteners. Felt for work of this type is bought by the yard from the drapery departments of stores. It is called pennant felt, comes in a variety of colours, is very wide and costs about $1.50 per yard.

Ordinary oilcloth in plain colours may be used to make table mats for the cottage or kitchen, bags of various kinds, serviette rings, shelf edgings, collar and cuff sets, curtain tie-backs, etc. Many mothers would welcome a valance and tie-backs for the kitchen or bathroom window. A valance is made from a strip of oilcloth the same length as the metal rod, which may have straight or curved ends. The valance may be of any width, but you should allow 3 inches extra to turn over and to glue down at the top to make a heading. Finish the bottom with scallops or appliqued designs. When in place the valance should be stretched out straight and overlap the top of the curtains. The tie-backs are strips of oilcloth about 2 inches wide and 24 inches long. They are ornamented to go with the valance, and are put in place with thumb tacks.

Girls might like to try designing for candle-wick. Very simple geometrics are the most attractive in this material—squares, diamonds, stripes, etc., with or without other small designs



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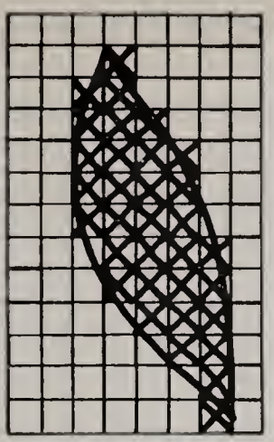

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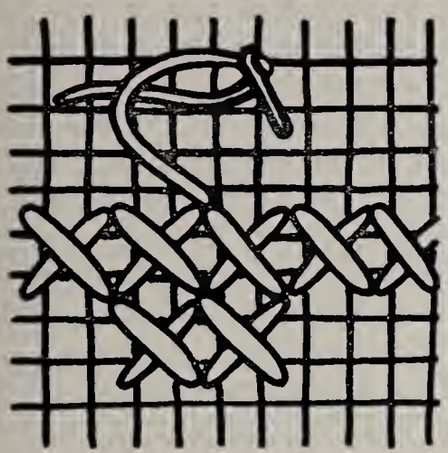

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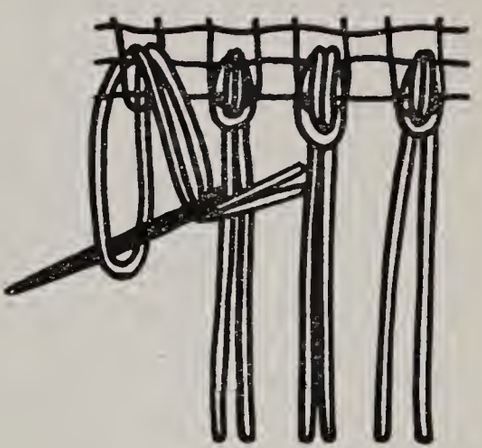

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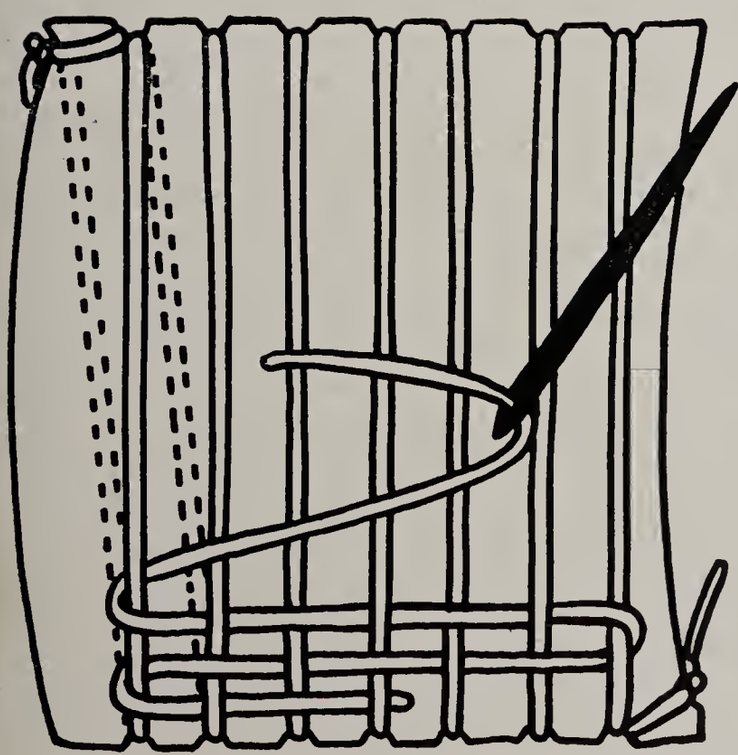

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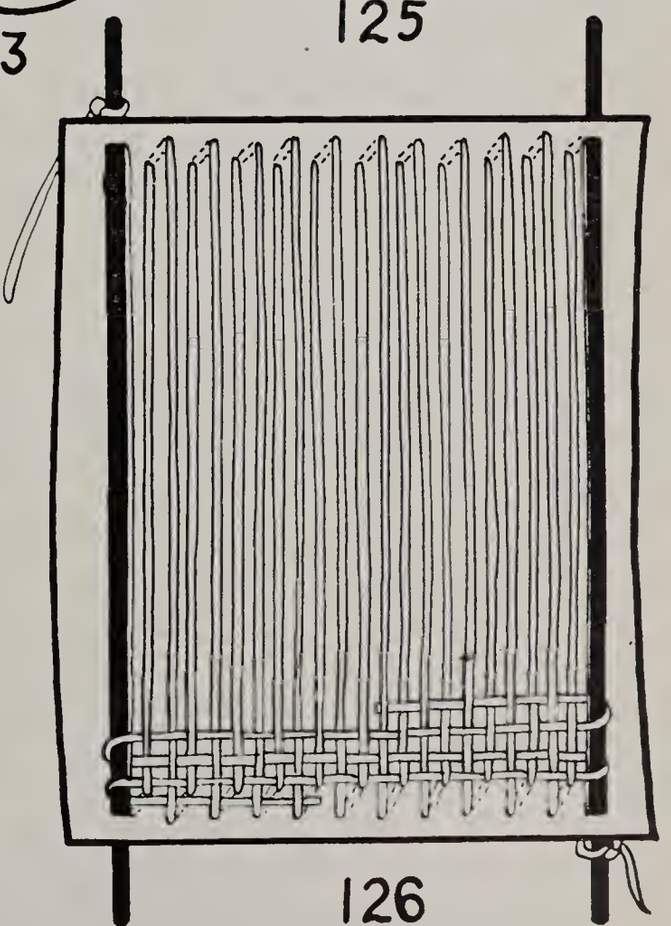

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in combination. Use a rather thin factory cotton to work on and get candlewick either in small or large skeins from department stores. It is a very coarse loose cotton thread which is pulled through the cloth with some exertion on a special needle. Use a simple running stitch with loops about ¾ inch long on top and as short as possible beneath. No knots are needed. Leave the stitches loose. Then cut each of the long loops in the middle. When the piece is all finished wash and hang it out, preferably in a wind. This fluffs out the cut ends of thread making little balls, and also shrinks the cotton enough to hold the stitches firmly in place. This work should not be ironed. Candlewick now is appearing on a variety of household articles such as cushions, curtains, dresser scarves, bedspreads, and even occasionally on wearing apparel.

Let us now consider ways of painting or printing designs on cloth. An interesting effect for a border or all-over pattern may be obtained by the use of wax crayon. Factory cotton is excellent for this, or any other smooth cotton. Stretch the cloth on a drawing board over a few layers of newspaper, and thumb tack it securely. Lay out the area with pencil or sharpened charcoal in squares, triangles, rectangles, circles, or figures of any other desired shape. A cut paper shape or stencil may be used as a pattern for the design, if placed in one square, traced, moved to the next square, traced, and so on. Then parts of the pattern may be filled in with crayon. A design may be laid out on paper in detail, and traced on the cloth with carbon. Paint with crayons. When the painting is done, put a layer of newspaper over the cloth and press with a warm iron. The crayon melts and fixes the pattern, and the colour now appears more solid. Such decoration may be washed without losing its colours.

Batik is described elsewhere as a method of putting a design on a textile. Batiks are not made under factory conditions, so this work remains definitely a handicraft. To buy a batik you would have to pay a very high price.

Stencil designs are used in commercial printing of cloth. As we cannot use colours mixed with water on textiles that should be washable, we may be limited to stencilling with crayons as above described. If oil paints are available it is quite possible to stencil on cloth with them just as we do with poster paint on paper. Lino or other blocks may be used for decorating textiles in school. The blocks are prepared as usual except that it is necessary in planning the design to experiment with repeats. By repeating the design on paper two or three times across and down we can see what the effect will be. Usually, quite unexpected lines and shapes appear.

In addition to the method just given for trying out the design this suggestion may help. Draw the design on paper first. Bend it in a cylinder in the manner of fig. 123 to see how two sides will look when printed against each other. Adjust the design to improve the meeting. The heavy lines in the drawing are as adjusted, the dotted lines are the originals. Now fold from top to bottom in the same way. Adjust lines here too if need be.

The best all-over designs have strong lines running from one block to the next to tie the whole together. For children's first attempts it is wiser to stick to spot designs which do not join when repeated. When pupils have mastered the mechanics of making the blocks and printing them, it will be time enough to solve more advanced problems.

When the design and block are satisfactory, pad a drawing board or table with newspaper, felt or flannel, finished off with a layer of cotton. Tack securely over the edges. Over this fasten the material for printing—cotton, linen, or thin silk. Mark out the repeats with pencil. Then roll up the lino block with printer's ink as usual, and print by pressing, hammering with a mallet, or weighting with a flat iron. If a mallet or hammer is used it will be necessary to glue a piece of wood to the block and to trim it around the edge. Thus it will stand much more strain. Ink each time, and print, trying to keep the pressure and amount of ink as nearly constant as possible. It is recommended that a design without too much solid colour be tried as it is not easy to get every print perfect.

If sticks or potato cuts are used for printing, only hand power is needed. Oil paint or printer's ink may be brushed over the stick pat-

tern, but not the wet potato, to make washable prints. Teachers will probably prefer to use the handier kinds of colour mentioned in Chapters 15 and 16 even if the results are not washable.

Plaids, stripes, and patterns which are woven, will be described in the next chapter. These do not depend upon a printing process.

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CHAPTER 24.

Weaving.

Primary pupils have done weaving in our schools for many years. Only recently has it been considered worth while for older children to try it. When we think how important woven fabrics are in our lives it is obvious that an understanding of the subject is no "frill".

From the paper weaving of mats and baskets, small children learn the over and under principle. Our next step might be the making of a little rug on a heavy cardboard frame about 6 inches by 8 inches. The thickest wool or string obtainable will be best. Ordinary four-ply yarn can be used, but something coarser is easier to handle. A large blunt darning needle carries the wool.

Use a frame like the one in fig. 124 which has nicks cut in the ends to hold the warp threads in place. For this coarse material we might manage without these nicks if the sides of the loom were made longer. The warp threads should be ¼ inch to ⅜ inch apart depending on their thickness. Thread the warp as shown in the drawing, tying the one end around the corner of the loom, carrying the thread to the other end, down through the first nick, up through the second nick at the other end and so on, tying the yarn finally to the opposite corner of the loom.

Now we take a long piece of yarn in the needle and start about 2 inches in from the left side at the bottom. Weave under and over to the left edge, turn the loom, weave under and over all across, turn and continue to the end, finishing by weaving in 2 inches or so from the edge. Now fasten the ends of the warp which so far have been tied around the corners of the loom. Thread on the needle and weave across part way with them. Now take the mat off the loom simply by cutting the threads at the back. This leaves a fringe at the ends. Trim.

In all weaving it is extremely important to keep an even tension all the way through. Pulling the woof or weft threads (crosswise threads) too tight causes unevenness in width. Every time a woof thread is put in it should be "beaten up", that is, shoved tight against the one before it. This may be done with the finger nails or with a coarse comb, later with a heddle. To join the threads when it is necessary to take a new needleful, start back about 2 inches from where you left off and begin to weave in the same places. The next row will make it firm and the under and over arrangement is not thrown out. We may introduce all sorts of stripes in the woof for decoration. We may also put a coloured fringe on the ends. To do this, thread the cord double in your needle. Insert it under one corner and pull through until about 2 inches of the double cord is left. Slip the needle through this loop and pull tight as in fig. 125. Cut off at the desired length. Do this all the way along as thickly as you like.

Another type of cardboard loom, more suited to intermediate grades, is shown in fig. 126. The holes shown at the ends may be made as far apart as necessary depending on the thickness

of the warp threads to be used—¼ inch is suggested. Extra strength is assured for the loom itself by arranging the holes in two rows. The loom is set up in the same way as before except that the warp has to be threaded on a needle and out through the holes. Steel knitting needles or wires placed beside the outside warp threads will prevent any difficulty with the work becoming uneven in width. The ends of these needles should be wound with rubber bands for safety. In the weaving, the needles are taken as one with the outside warp threads. Fig. 126 shows these points.

At this stage a wooden frame makes a good loom. It may be any size up to about 12 inches by 15 inches. If larger than that it would be heavy and cumbersome for little children. The work is set up by winding the warp threads round and round the loom, passing the thread over the ends of the frame in which nicks have been filed ¼ inch apart. These hold the threads in place. Tie the ends of the thread around the corners or fasten to the wood with push pins. A knitting needle may be put in as shown in fig. 127 to hold the threads all level until the work is started. This will help at the other end when near the finish. This frame will be suitable for very coarse work with yarn or with rags. If using the latter, cut them about ½ inch wide. Rags are not used for the warp threads but a kind of string called carpet warp which, as the name indicates, was made for the purpose. Store cord will also do.

When the children reach the senior classes they will become dissatisfied with the coarse materials. Now finer wools, three or four ply in thickness, are put on looms such as the wooden frame already described. But this time have the grooves filed ⅛ inch apart. Now use a heddle for separating the over threads from the under ones each time. This opening is called the shed and allows the shuttle carrying the woof thread to be slipped straight through. The children will appreciate what a labour saving device this is.

One Indian type of heddle is just a stick. Tie one end of a cord to it, pass the other end under the first warp thread, over the stick, under the third warp, over the stick and so on. These loops should be quite loose but even. Sometimes a second stick is used for the other set of threads, the second, fourth, etc. The heddle may also help to push the woof threads down to place.

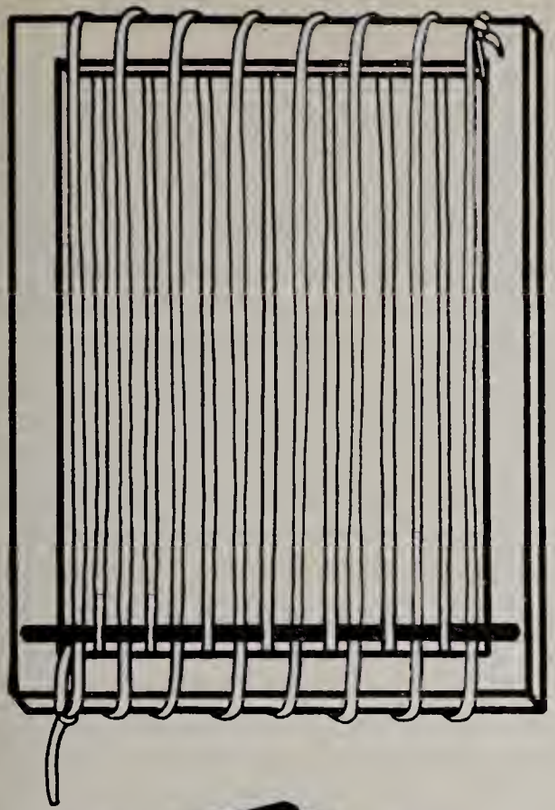
A more efficient heddle used by some Indians was made as illustrated in fig. 128. Thin narrow strips of wood are fastened to cross pieces, top and bottom. The Indians used twigs of even size, ¼ inch to ⅛ inch in width. A hole is bored or burned in the middle of each strip. In threading the loom the one set of threads goes through the holes, the other through the spaces between. They might be placed ⅛ inch apart. By raising this heddle the one set of threads is drawn up and the shuttle may be slipped through. By lowering the heddle the same set of threads is lowered and the shuttle put through. This process is repeated.

A useful heddle which can be made by anyone is shown in fig. 129. The wooden frame has pieces of wire twisted on it so that one set of warp threads goes through the little loops, while the other set goes between the wires and is free to move the full width of the heddle. Loops similar to those in fig. 129 may also be made of fine string.

In setting up the loom using a heddle, the end warp threads should be put on first in order that the heddle may be held in place while the others are being threaded.

The shape of the shuttle varies greatly. It should be flat and possibly narrower at the ends. A quantity of thread is wound around the middle. Figs. 130 and 131 show two types.

A simple kind of home-made loom is shown in fig. 132. The measurements depend on the purpose of your weaving, but it should be remembered that narrow weaving may be done on a wide loom but not vice versa. A frame 18 inches long, 10 inches wide and 4 inches high over all, and made from wood ½ inch to ¾ inch thick should be convenient for most purposes. The end pieces should be 3 inches from the ends of the side pieces to allow room for the broom handle rollers. These rollers fit loosely enough that they may be



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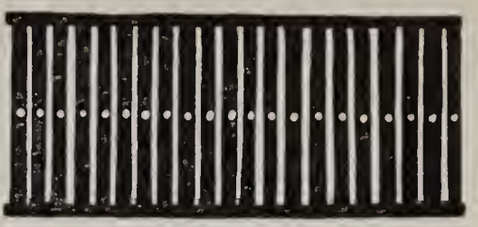

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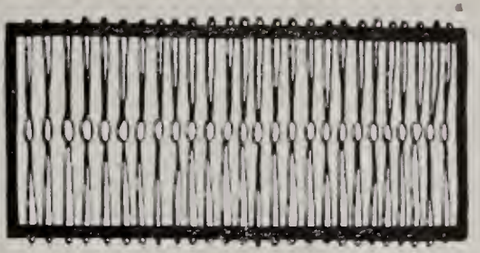

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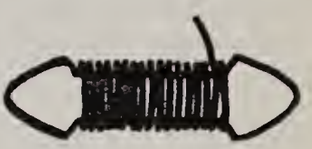

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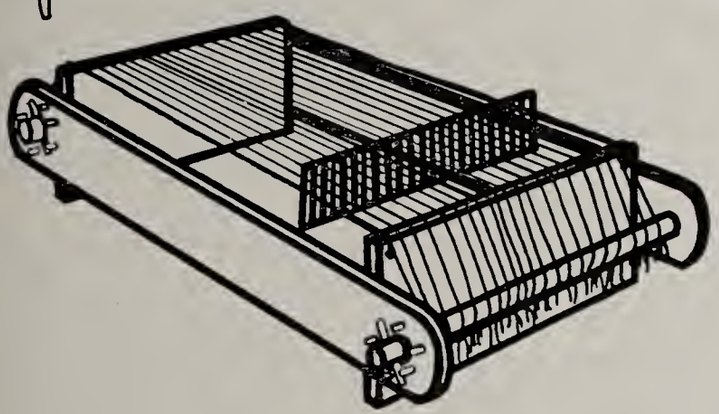

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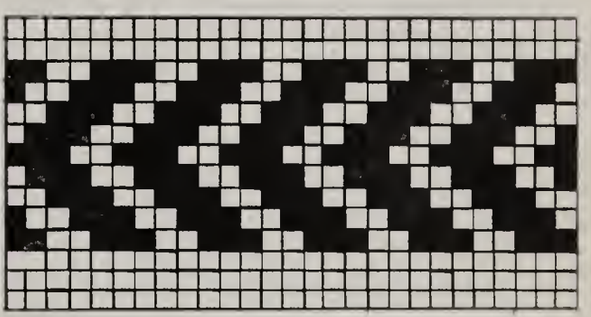

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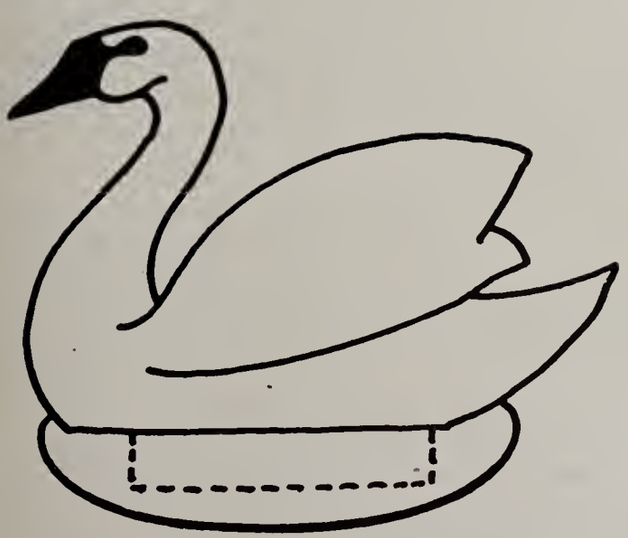

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turned, one to unroll the warp, the other to roll up the finished weaving. The rollers should project 1 inch beyond the side pieces so that pins may be slipped through them to be held in place by the nails or pegs shown in the diagram. Nicks ⅛ inch apart are cut or filed across the tops of the end pieces for holding the warp threads in place. Light wire run through the heddle with the outside threads, and wound with them on the end rollers will help to keep the width of the work even and may be pulled out later.

This loom may be used to make a piece of cloth a little shorter than the distance around the loom. To do this simply cut warp threads long enough to go from the top front of the loom over the nicks in the front end piece, through the heddle, over the nicks in the far end piece, over the roller, around the bottom and back up the front. Tie the two ends of each together. Then as the work progresses, the finished material is brought down over the front, bringing up more of the warp threads at the far end.

If a long piece of cloth is needed the warp threads are cut considerably longer than the cloth is to be. Wind a little factory cotton around the whole width of each roller, and tack, leaving about 2 inches hanging free. Now fasten each warp thread to this cotton by drawing it through with a needle and tying. Wind the threads evenly on the roller and put in the pin. The threads should be left long enough to go over the top of the loom through the nicks, through the heddle, over the other nicks and down through the cotton. They had better not be tied until the tightness is evenly adjusted. It would be easy just to tie them in several bunches to the roller. Tighten the threads by turning the roller and put in the pin to hold it. As the work progresses, the finished part is rolled down over the front roller, while more warp is rolled off the far one.

By using different coloured threads in the warp lengthwise stripes are made. Different threads in the woof will make crosswise stripes. By combining the two we get plaids or checks. To make a pattern in weaving it would be best to plan it first on squared paper as in cross-stitch. The odd-numbered rows may be in pattern, but the even-numbered rows are usually plain to make the weaving firm. The pattern is made by a variation from the "over one, under one" of ordinary weaving. For example, a few pattern rows making a border might be done by going over three threads and under two. By studying Fig. 133 it will be clear to the weaver that, for example, the loops over three threads in one row do not come immediately above the corresponding ones of the preceding row. These loops are made a distance of one thread further to the right or left, giving a diagonal pattern. The direction of the diagonal is determined by the shift to right or left. The rows of plain weaving are not needed to give a firm result in this case. One might do all this with a needle. Or better still, pick up the threads on a pencil or knitting needle, holding them up to make a shed for the shuttle to pass through. A special heddle is used to lift the right threads by advanced workers.

Little has been said about finishing off the ends of a piece of weaving. If no fringe is wanted, one might put each warp thread on the needle and going around the bottom woof thread, weave it back up for an inch or so, before cutting off the end. This should not show if neatly done.

A variety of doll mats, doll hammocks, hot dish holders, table mats, belts, bags and scarves may be woven. Small pieces may be sewn together to make larger articles such as cushions or crib blankets.

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CHAPTER 25.

Sewn Pictures.

A sewn picture is one made entirely of cloth pieces appliqued on a piece of paper. This type of work is usually done in intermediate grades but need not be confined to them.

A very simple picture should be chosen and carried out as with cut paper. It is important that the cloth used should be firmly woven, as small children will not be able to handle material which ravels. Try to choose textures which suggest the things they are to represent. For example a woolly flannel or piece of material with fleece lining would do nicely for a sheep. A corded cloth would make the side of a frame house, emery cloth a dirt road, and a piece of printed cotton a flower garden.

The materials should be sewn with very few and simple stitches. Real appliqué is done by turning under the edges and buttonholing around them but this should be kept much simpler than that. Just enough bastings to hold the cloth will be needed, but the long stitches should all be kept on the under side.

If preferred, pieces may be stuck on instead of sewn. There is no need of sticking the whole area so just put a little paste on here and there. Black tape makes a very satisfactory frame. If the picture is to be used in a home it is best to cover the cloth with a piece of glass and to finish the edges with a wooden frame or passe-partout (gummed paper) binding.

CHAPTER 26.

Batik.

Batik is a very old craft and has always been considered suitable for professionals only, but simple batik processes are quite within the capabilities of some of the older children.

Try a one-colour batik first. Ordinary blue school ink will do nicely as the dye. Thin white or light-coloured cotton, silk, paper or linen, are suitable materials for use. Wash the cloth to remove any filling, dry and iron.

Make a simple design using only white paper and India ink. When doing this try to get an interesting pattern of black and white. Trace the design with carbon paper on the cloth and go over it quite heavily in pencil to make sure of it. Stretch it tightly in a frame or suspend it from the blackboard ledge.

Melt a little paraffin and beeswax in about equal proportions in a can. This is best done if the can is placed in a pan of water which is over the heat. In this way overheating, with its resultant smoke, is avoided.

Cover with hot wax the parts of the design which are to remain light. An ordinary water colour brush may be used for this purpose. Experience will teach how to apply the wax without letting it spread. Use only a little wax on the brush and hold the cloth free from contact with anything. When the wax is cold you are ready to put the cloth in the ink bath.

Have enough ink in a shallow pan to wet the piece of cloth thoroughly. The more room the cloth has to open out in the dye, the better. Stir until all parts are well exposed and the colour looks a little too dark, for it dries considerably lighter.

The next step is to remove the wax. This is done by pressing repeatedly between sheets of blotting paper or newspapers, and washing outdoors in gasoline or benzine if there is any wax left.

An interesting effect called crackle is obtained by crushing the waxed parts in the hands. This is apt to happen to some extent anyway in the dyeing. The dye is allowed to enter

slightly in the cracks. Plenty of space in the pan for the dye helps to prevent such cracking, as does the use of lukewarm dye.

Several colours may be used if desired. Use ordinary powdered or ready mixed dye sold for household purposes and follow directions given on the package. Start by blocking out with wax the parts which are not to be dyed and dye with the next lightest colour. Block out next all parts to remain that colour. Dye with the next lightest colour, and so on, reserving the darkest to the last. Since some parts will receive dye two or more times it must be understood that blue dye over red, for example, will not give blue but purple. It is sometimes hard to predict what the colour resulting from several dye baths will be but it is unlikely to be inharmonious.

Very beautiful wall hangings are made by the batik process. They are hung by means of rods top and bottom and are suitable for use over chests, tables, or fireplaces, like pictures.

It is best to have batiks dry cleaned because there is always danger that some dye may not be perfectly fixed.

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CHAPTER 27.

Paper and Toy Construction.

Space will permit the inclusion here of only a very few ideas in construction work. I have avoided the usual paperfolding and have selected a few simple toys and gifts which may appeal to junior and intermediate children.

The first, fig. 134, is a floating swan. Draw and cut from cardboard two swans about 2 inches to 3 inches long, leaving a good-sized tab on the bottom of each. These are shown by dotted lines in the diagram. Paste the swans together after they have been painted. Make a slit in a milk bottle cap which is to be the base. Pull the tabs through to the under side and glue. To make it really waterproof give it a thin coat of paraffin.

Tiny boats may be made from half walnut shells which are partly filled with melted paraffin. Put a small twig, match stick or tooth pick in the paraffin while it is still soft, to make the mast. When the paraffin is set, place on the mast a sail cut from white paper.

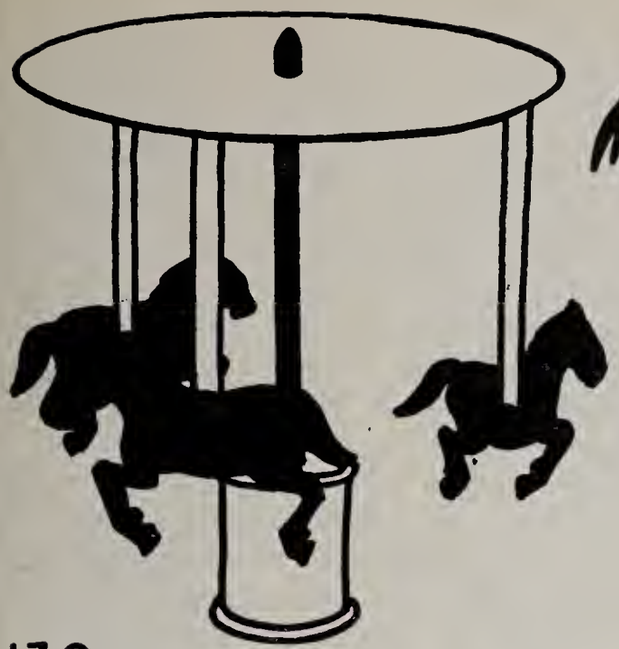
A cork boat has a lollypop stick for a mast and a similar paper sail.

A half walnut shell filled with paraffin makes a very good turtle. Put four legs, a head and tail of twigs, cloves or paper into the paraffin while it is soft. Allow it to harden and turn the half shell round side up.

Fig. 135 illustrates a simple cardboard pull toy which small children can make. Cut out two horses alike, paint and paste together down to the legs. Empty spools, the shorter the better, are put between the front legs and also the back. Match or lollypop sticks are cut to make axles. If they project beyond the legs a little, they may be made secure by winding thread, paper or rubber bands on the ends. Finish off by tying a string around the neck.

What small boy would not enjoy making the merry-go-round in fig. 136? Again the base is an empty spool which holds a lollypop stick for the pole. Cut a cardboard circle 3 inches in diameter for the top. Put a little paste on the top end of the pole and push the circle down on it. Paint these parts in bright colours. Six horses about 3 inches long are needed. These may be drawn by the children themselves or traced from a pattern of suitable size since they are difficult. A good effect is obtained by using several colours of construction paper and merely cutting out the shapes. Strips of paper ¼ inch wide and 4 inches long are pasted at even intervals around the edge of the circle and to the backs of the horses. The merry-go-round is now complete.

Fig. 137 is a palm tree which may come in



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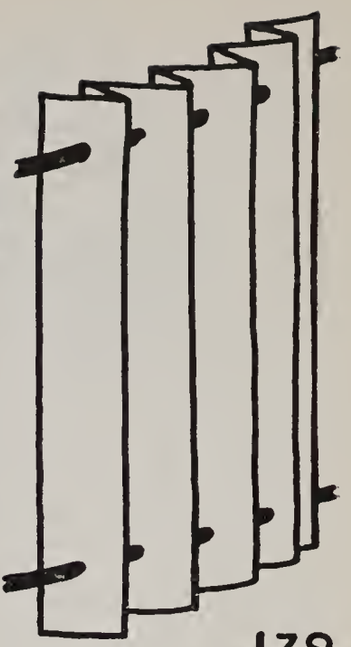

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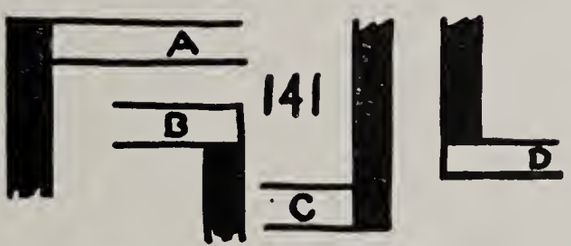

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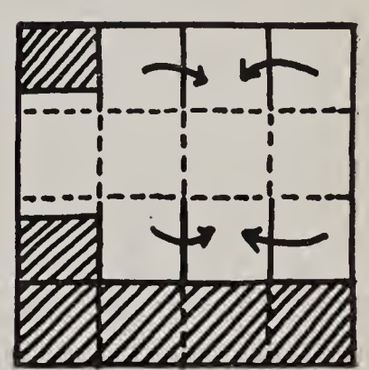

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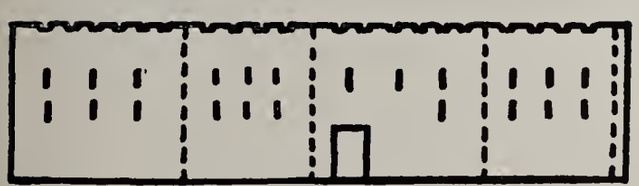

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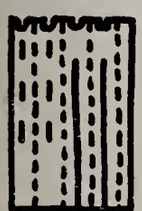

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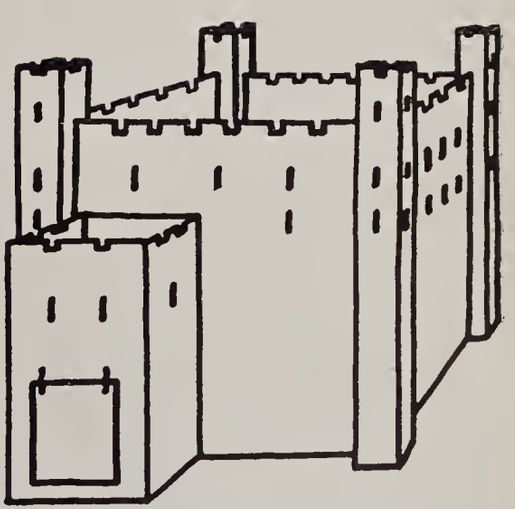

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handy for the sand table or any other three-dimensional illustration. It is made of corks strung on a wire which is slightly bent. At the top fasten a few paper cut fronds. These are made by folding green paper down the middle and cutting the open edges like a deep fringe. Point one end slightly and fasten the other end to the wire, keeping the centre fold on top. Mount in a base of some modelling material. Very good trees of other shapes are made from pieces of sponge cut roughly to resemble the tree top. Use a lollypop stick for a trunk and a large wooden button mould for a base. Dip in paint. Two other types of trees are described in the Christmas section.

Children may like to decorate the plant pots in school or at home with simple folded paper covers. The construction of these is shown in fig. 138. Cut a strip of heavy paper ½ inch higher than the pot and twice as long as its top circumference. Mark and make a fold every inch, remembering that the first is folded forward, the second back and repeat. When the folding is done coloured string, tape or ribbon is strung through. Pull the strings and adjust to fit the plant pot. Tie the ends in bows.

Indian head dresses are very simply made by farm children in primary grades. Collect a dozen large feathers and dip the tips in paint if desired. Cut a strip of corrugated cardboard about 2 inches wide and long enough to go round the head and overlap a little. Decorate it by sticking on small geometric shapes of bright coloured paper. Glue, tie or pin the ends together. Then stick in the feathers putting the largest at the front.

The construction of a jack-in-the-box is shown in figs. 140-143 inclusive. Make a funny face of heavy paper about 1½ inches in diameter. For the box use an 8 inch square of heavy paper in some bright colour. Fold in sixteen squares being sure to keep the same side of the paper up all of the time. The dotted lines in fig. 143 show where to fold and the solid lines where to cut. Put the box together with paste, having three layers of paper on each end. Two strips of paper in contrasting colours are required for the neck. These should be ½ inch to 1 inch wide and about 30 inches long. Put them in the position shown in A. Paste them together. Now turn the light strip over to the left, to the position in B. Turn the dark strip up to the position in C. The light strip is now turned over to the right like D. Repeat, always turning the under one over on top and paste the ends in place when finished. Fig. 142 shows how the chain looks from the side. Paste one end to the bottom of the box and the other to the funny face.

The making of a Norman castle from light cardboard, or cereal boxes, is a suitable activity for intermediate children. Although measurements are given here, other numbers could be substituted where boxes are used. A castle is very simply made and quite sturdy. First cut a strip of cardboard 28½ inches long by 7½ inches high. This forms the four walls of the castle, 8 inches long by 6 inches wide and allows ½ inch extra for gluing. Fig. 144 shows what details are put in the wall section. Score the four dotted lines where the cardboard is to be bent. To do this run a knife blade lightly along the lines on the outside of the wall. If you press too heavily the cardboard will be cut, or weakened. Along the top of the wall at the left end in the diagram, mark 1⅜ inches, then ¼ inch to be cut out, ¾ inch, then ¼ inch out. Continue until there are six of these ¼ inch spaces. There should be 1⅜ inches left between that and the fold. Along the end wall use the same measurements but there will only be four ¼ inch spaces. Do the other walls in the same way. Now cut out the ¼ inch spaces ¼ inch deep. The top of one row of windows is 5½ inches from the bottom, the other 4 inches. All windows are drawn or cut ⅛ inch wide and ½ inch high. Cut the doorway 1⅛ inches from the left end of one side wall. Make it 2 inches wide by 2½ inches tall. Glue the ends of the walls together.

The four corner towers are cut 5½ inches wide by 9 inches high. This allows four sides 1¼ inches each and ½ inch for gluing. Score the lines for folding. Along the top measure from the left ½ inch, then cut ¼ inch out, leaving ½ inch to the fold. Do this on all four sides. The lower rows of windows are at the same

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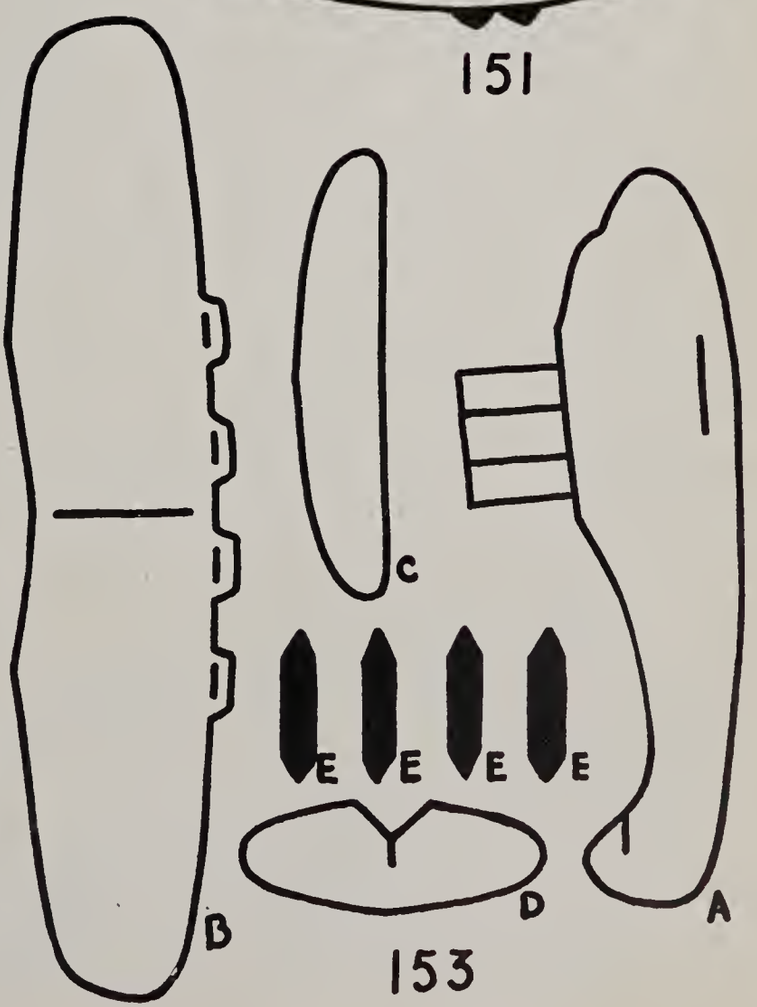

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heights as before. The top row is 8 inches from the bottom. It will be noticed that on two adjacent sides are cuts running up 7½ inches from the bottom, half way between folds. Paste the ends of the tower pieces together. Then slip them in place over the corners of the walls by means of the two cuts in the sides of the towers.

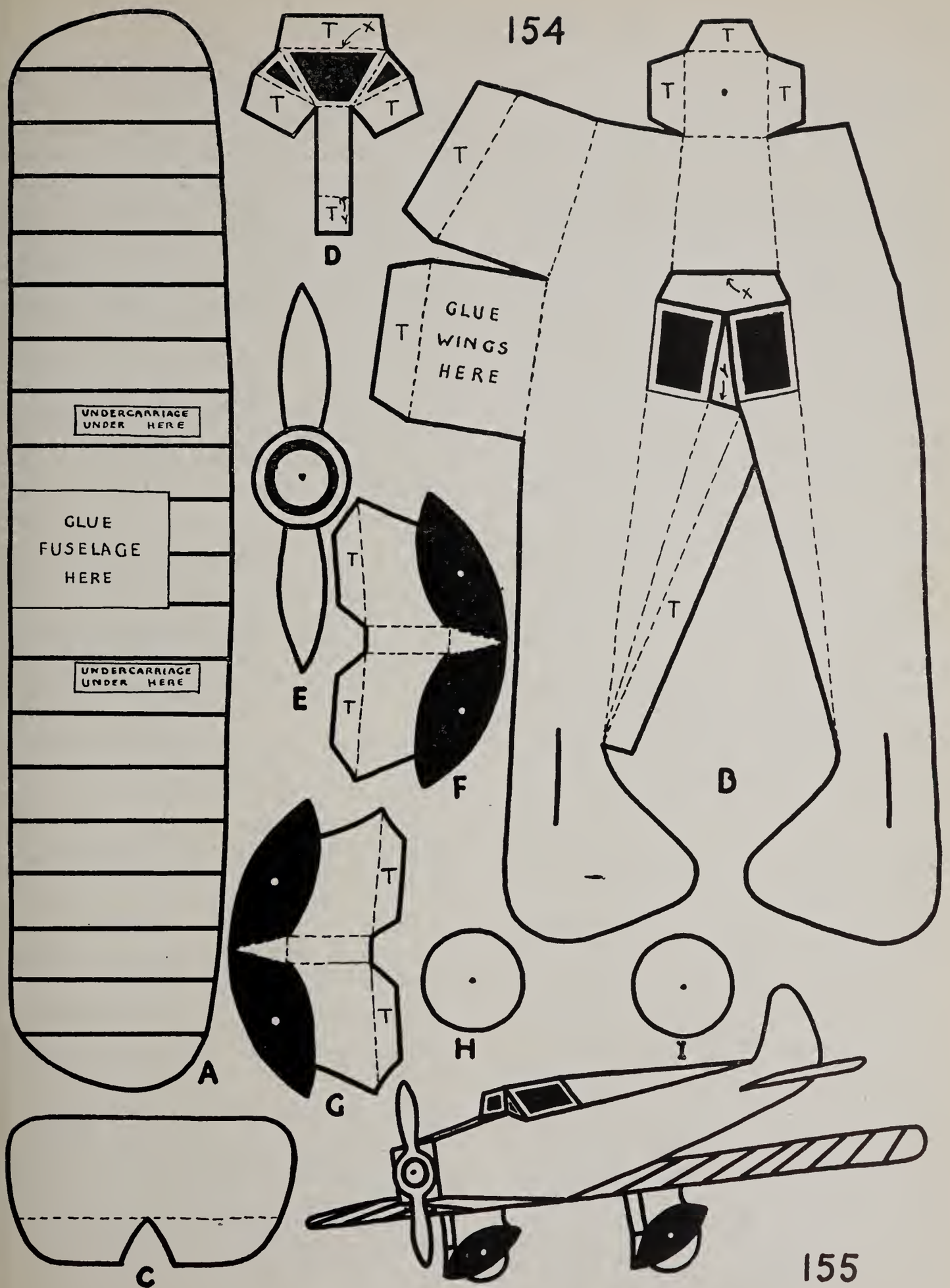
The front part is made 12½ inches long by 5½ inches high. The sides are all 3 inches wide with ½ inch for gluing. Score these lines. Along three sides at the top, cut out two ¼ inch spaces ⅞ inch from the corners. A doorway is cut in the back to fit over the one in the wall. It is 2½ inches high by 2 inches wide as before. In the front another doorway is cut. This time it is 2 inches high and the bottom is ½ inch off the ground. Cut the door right out and save it for the drawbridge. Make a hinge for the bottom from a strip of cloth. At the top, punch two small holes and also two in the wall just above the doorway. Put a piece of string through the drawbridge leaving a large knot on the inside and coming to the outside. Put the string through to the inside of the wall above through the holes already punched. Leave the strings fairly long and operate the drawbridge from inside. Glue the ends of the wall together and glue the whole to the large castle wall so that the two doorways coincide. Fig. 147 shows the drawbridge down and fig. 148 a general view of the model. It may be painted to resemble gray stone.

Fig. 149 shows a clothes pin soldier suitable for intermediate grades. The uniform is supposed to resemble that of the Royal Grenadiers. First it is necessary to provide more surface on the pin to which the busby will stick. Simply take a small wad of cotton batting and paste to the top of the clothes pin. Two dark blue pieces of paper 2 inches square are slipped around the legs and pasted down the outside. A narrow red strip is pasted down the side of the trousers over this join. It may extend far enough above the trousers to stick to the clothes pin and hold them in place. A red piece 1¾ inches high by 2½ inches wide is wrapped around for a tunic with the join in the centre front. Pinch the paper at each side of the top to make shoulders. A little paste inside will hold them. The arms are paper strips ¼ inch wide and 2 inches long, rounded off at the top and stuck to the pinched places. Fold one over for the bent arm. A strip of narrow white paper goes over the right shoulder and fastens under the left arm. A white belt completes the tunic. The gun is cut from black paper and stuck in place. The busby is of black paper 3 inches wide by 1¼ inches high cut slightly circular. Wrap around the head allowing it to flare a little at the top. Glue to the cotton batting and along the join. Make a stand for the soldier from a bit of modelling material.

Paper dolls are perennial favourites with junior girls. Would they like to make their own? Draw a child's figure from a fashion magazine, taking care to choose one in which the arms do not stick out much beyond the body. A straight standing pose is simplest. Paste on cardboard, paint and cut out. Make a stand for it from a strip of cardboard pasted at the top to the back of the doll. Clothes, to any number, may be made by tracing around the body as shown by dotted lines in fig. 150. Add tabs, draw in details of costume and paint. Study fashion drawings for simple ways of drawing fullness, pleats, etc.

The little girl in fig. 151 is intended to be cut from cardboard and the upper part painted. The skirt is to be covered by a piece of sandpaper cut to fit. Paste in place. Make a hole in the top of the head for a string to hang it up for use as a match scratcher. Sandpaper may be painted with crayon or transparent water colours without interfering with its use.

Another gift simple enough for an intermediate child to make is the kitchen memo-pad holder shown in fig. 152. The figure is cut from heavy cardboard, the features, cap, bib and dots are drawn and painted. Make two holes at the waist and slip a string through. Tie it at the back. Make a hole in the top of the cap and put in a string to hang it up. The arms are cut or carved from wood, flat at the back so that they may be glued in place. The tips are just far enough apart to hold a pencil. A one-cent pad of paper is slipped over the string at the waist,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to make an apron. If pads are not available, use folded sheets of paper.

This figure would be very simple to make as a rag doll. Cut two pieces 8 inches or 10 inches high. Sew together except for a small piece at the bottom, stuff, and finish sewing. Draw the features, etc. Or one might make a doll which would stand up, by cutting a circle of cloth, and one of cardboard, for the bottom. Sew the bottom of the skirt to their edges. Stuff from the side in this case and then finish sewing.

Fig. 153 is intended for any boy who likes aeroplanes. It is a very simple one which Grade II or III could make. An older boy might square up the drawing, making it about twice as big. (For instructions see the chapter on Odds and Ends). Cut from cardboard one of each piece shown, remembering that all solid lines are cutting lines. Then colour as desired. A is the body or fuselage of the plane. Those three odd-looking tabs go on top. Slip them through the slit in B, the wings. Turn the middle one to one side, the other two to the other side. Make sure that you have the four square parts on the wings toward the front. They are the engines. The propellers E, go through the slits in the engines. C slips through the slit on the under side of the fuselage, with the curved side forward. The slit in D goes into the slit in the tail. This makes the elevators. Now paste down the tabs of the fuselage on top of the wings. This is an extremely simplified model of a China Clipper.

In fig. 154 is another aeroplane requiring more accurate work and pasting but with a much more satisfactory result. The parts should be accurately traced. One of each piece is needed, except that D may be eliminated for the sake of greater simplicity. Paint the parts. Cut out around the edges. With a sharp knife cut the two slits in B near the tail. Dotted lines should be scored lightly with the scissors point or knife point. Bend back where scored. B is the fuselage. Turn back the tabs marked T for pasting. When they are pasted the fuselage will have a top, a front, and a partial bottom formed by two sections. Refer to fig. 155 to see if it looks right.

Bend C, the elevators, along the dotted line and insert through the slits in the tail of the fuselage. Bend out flat again. E is the propeller and is fastened on the front with a paper fastener or bent pin. The wings A, are glued under the fuselage in the position marked, the right edge to the front. F and G form the undercarriage. Bend each back so that the two tabs overlap. Refer to fig. 155. The wheels, H and I, are slipped in place and fastened with pins, wire or paper fasteners. Now put paste on the tabs and stick directly underneath the places marked on the wings. D is the front part of the cabin. If you wish to enclose the cabin, put paste on the tabs and put this piece in the plane, matching x to x and y to y. Fig. 155 shows how the model should look when complete.

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CHAPTER 28.

Modelling.

In most schools, modelling is confined to the use of plasticine in the lower grades, and serves the purpose of filling in spare time. The subject is worthy of much more consideration than that, for properly used, it may be a very real aid to clear understanding and concentration on essential points.

Modelling may be begun as early as the children are able to handle the material even before they come to school, and may be continued indefinitely. It is not confined to the primary classes at all for even adult sculptors find in it plenty of scope for expression.

Modelling is just as good a medium for the expression of ideas as drawing is. In fact some think it better. Teachers will find it useful not only for its own sake but as a means of correlating art with other school subjects. Models of animals, birds, people, ships, buildings, objects used in other lands, and land surfaces, aid in the learning process.

Plasticine remains the most satisfactory all-round material for primary classes. Older pupils may use clay or any of the materials mentioned below.

If clay is to be used it is necessary to know that there are several kinds. One may use natural clay from creek beds if it is clean. If it is to be bought, sculptor's clay is the cheapest and best. It is not intended as a permanent material and is very apt to crack when dry. Pottery clay requires firing and so is useless, unless a kiln is available and we can afford to use it. There is a permanent self-setting clay which would serve our purpose well, but its cost is beyond most of our purses.

Any clay is messy to work with, although it is easily washed from desks, floors, and children. If it is possible to have a corner of the school, or room, for a workshop, it would be a convenient arrangement. Then the children should be provided with old aprons or smocks, boys and girls alike. Tell the boys that all artists wear long smocks when they work.

To prepare the clay, put some in a jar, pail or tub depending on quantity, and just cover it with water. Let it stand for a day or so. If water is still standing on it, take some out, and let it drain for a few minutes. Work in the hands until it is just hard enough to come off the skin clean. Keep the hands free of dried particles by washing frequently. This is to avoid making the clay lumpy.

Use a board on which to work. The ends of apple boxes do nicely. If the model is not finished when the period is over, it must be wrapped in a cloth wrung out of water, and then wrapped again in something waterproof, such as table oilcloth.

If it is desired to keep the work, shellac it when still wet. Then it may be coloured with poster paints.

To support larger figures use a wire frame something like the one shown in fig. 156 without the string to suspend it. If the model is to be very large use lead for the frame which is called an armature.

When a clay model is not wanted any more it may be thrown back in with the dry clay, and resoaked.

Plasticine should be used on pieces of oilcloth, or a wooden or cardboard surface treated with paint, varnish or oil. If boards are not so treated, the plasticine will become dry from loss of oil. Soften old plasticine by putting vaseline on the hands and working it.

There are a large assortment of modelling tools on the market which are good. Do not feel that you must have them, however, for the children's thumbs and fingers are the best tools. Orange or sucker sticks are also very useful aids.

Modelling is essentially a building-up process. Begin with a mound or pat of clay on the board and by adding pieces here and there, gradually build up the shape. When a piece is added it can, with a minimum of wasted effort, be securely joined to the main mass

with a rubbing-down motion of the thumb. Only for finishing details should any clay be scooped out.

When small children are modelling they show a tendency to stick a large number of little bits together. The result is a model which falls to pieces at a touch and has little artistic merit. They should be urged to make the whole model out of as few pieces as possible, by pulling parts out from the main mass. If the children are in the primary class it may be found that their hands are not strong enough to do this unless the material is very soft. Too often they are forced to struggle with plasticine which is old and hard.

Care should be taken to choose a subject which will not require much undercutting, as this makes the model very weak. The child should make his model so that there is no need to have spindly limbs, or long projections which may break off. This is an application of the principle of fitness to purpose. If metal were the material, there would be no difficulty on this point, for it is not brittle. There would be unlimited scope in designing the model. A design for clay or similar materials should, then, be quite solid or massive in appearance.

Modelling requires thinking in three dimensions. The work is done quite freely and naturally with very little direction by young children. But it is not always easy for the older children who have been taught to put everything on paper. It is good for the older ones to do a little modelling in order that they may realize the solid character of objects.

Older children who are not used to handling clay may be helped by thinking out the logical steps:

(1) Model directly from the object itself, e.g. an apple.

(2) Model the apple roughly, getting general shape and proportion. Work first from one side, then turn the apple or move around to get another view, and so on.

(3) Study the characteristics of that particular kind of apple, and of that particular one of that kind.

(4) Consider detail and texture of surface.

* * * *

Here are some other modelling materials which we might use.

(1) Papier maché. A description of its handling is given in Chapter 30.

(2) Flour and salt. Use about half of each with enough water to make a very thick paste, adding dry colour if desired. This may be applied to a heavy cardboard surface, but it is inclined to chip off. It may be painted when dry with ordinary water colours.

Make the flour and salt into a thick dough by cooking, and it will serve as a modelling material. It dries very firmly with a little shrinkage and may be painted easily with water colours or poster paints.

(3) Salt and starch. This mixture is excellent and is used in much the same way as the salt and flour. Mix two measurements of salt to one of cornstarch, and one of boiling water. Stir until the starch is cooked, or until it is thick enough to model. Knead until smooth, and like thick dough. It should be dry enough not to stick to the hands. Either of these dough mixtures may be kept for a day or two by rolling in a damp cloth.

You might like to model little dolls out of this material for the study of period costumes in connection with the social studies programme.

Use a foundation of white hat wire. Something fully as stiff but non-rustable would be better. Make a frame somewhat like fig. 156, posing the figure in any way you like. A 6-inch doll would be a suitable size. Model the material around the wire, covering it completely. Notice the string fastened to the top, by which the figure is to be hung up to dry. Afterwards cut the string off near the head.

Heads for puppets may be modelled from either of the dough materials. Take a piece of the dough, wrap it around the forefinger of the one hand and model the head shape with the other. Make a rim around the bottom of the neck to hang clothes on. The head may be removed from the finger to a shelf to dry for a few days. When in use hand puppets may be held by the finger hole inside the head. (See fig. 157.)

(4) Paraffin wax. For small models this material makes a change from the others.

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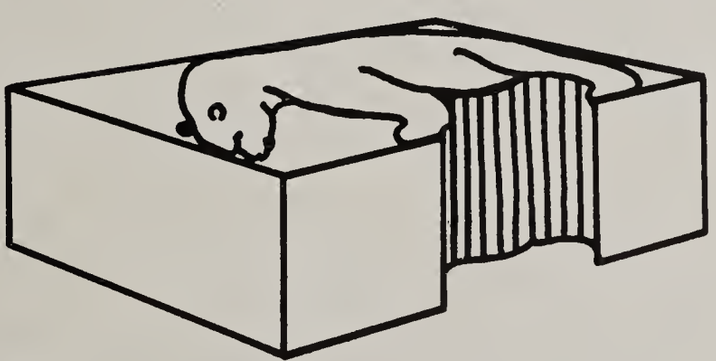

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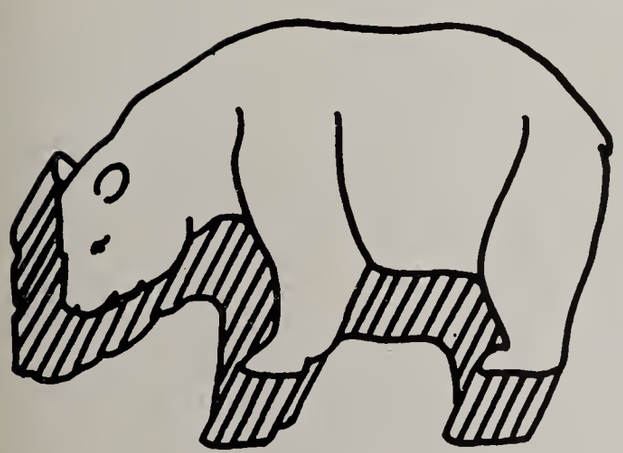

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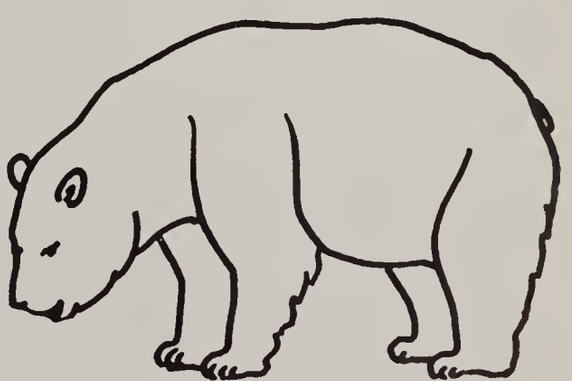

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Simply warm the wax in the hands a little until it is soft enough to model.

(5) Plaster may be mixed with sand to give a coarse material for modelling. In this way the plaster will go further. It is a very suitable material to use for objects such as the Eskimo igloo where we can make a cardboard foundation. Spread the plaster and sand mixture, and then while still soft, model it quickly. When it is hard the foundation may or may not be removed. It is well to remember that plaster does not cling well to cardboard and wooden walls.

(6) Powdered asbestos mixed with flour or cold water paste (in the ratio of 4 of asbestos to 1 of paste) makes a very good modelling material which is cheap, and very hard when dry. It is light gray, and may be painted with opaque colours. Firms handling building supplies are able to get the powder.

(7) A mixture of fine sawdust, an equal quantity of paste, and a little glue, makes a fair modelling material. It is good for making land formations where the material is supported while wet, as it is hard to make it stick together.

Rough surfaces may be smoothed when dry by sandpapering, or by smoothing over with a thin coat of fine material such as plasticine.

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CHAPTER 29.

Carving.

Carving is an art which seems made to order for school purposes. The materials used are cheap and clean to handle, and very little equipment is necessary. The children, boys particularly, enjoy this activity in both intermediate and senior classes.

There are countless subjects suitable both for their own interest and in relation to other school activities. It is best to stick to massive objects with little undercutting, unless a hard material is being used. For beginners in Grade IV, models of houses, ocean liners, battleships, doll house furniture, fruits and initials have proved successful. Older children may try more difficult subjects such as animals and people.

Soap is one of the best materials to use and has rightly become very popular.

For soap carving it is necessary to have a moist soap which is of uniform quality, and without air holes. To ensure this get it from the store when fairly fresh. In the right condition it cuts like cheese without chipping. Sometimes the outside of the cake is dried to some extent but most of this will be cut away so that does not matter.

To prepare the cake it is better to cut off rims and lettering with a kitchen knife.

Tools used for soap carving are usually none other than ordinary kitchen paring knives or pocket knives. Orange sticks may prove handy.

The design may be drawn on paper the exact size of the cake. This is transferred with carbon paper to the soap. The paper may be laid on the cake and the design pricked around with a pin, or the drawing made directly on the soap if desired.

Fig. 158 shows the cake with the design traced on all ready for cutting. Fig. 159 has a part of the first step in cutting done. Cut all around the design, making the cuts go straight through the cake. When this is done it should look like fig. 160. Some like to leave the figure at this stage.

From the sides it now looks like a bear but not from any other view. The third dimension must now be considered. Draw the front outline of the bear on the front of the model. Draw the back view in the same way. Now cut around the outline on the front and on the back, but not deeply yet. These cuts must meet,

but where? Look at the animal from the top. How far along the animal is the bulkiest part? In this case it is through the middle of the body. From there the whole animal tapers to the head and the tail. Finish the cuts so. Then complete the carving by working on details. It may appear somewhat like fig. 161.

Some like to smooth the surface by rubbing with a bit of cotton, or a paper napkin. Many sculptors prefer the natural rough texture and take pains to keep it.

Soap models may be coloured with poster paint or water colours, either with or without a preliminary coat of shellac.

Soft wood such as balsa is excellent for carving. This is the wood now used for aeroplane models because it is very light in weight. It is inexpensive if bought in quantity but is stocked only by some of the larger lumber companies. The same general procedure should be followed. Most boys use their pocket knives for this, although there are excellent wood carving tools on the market.

If the children would like to try carving in other materials, try paraffin wax. If their mothers will save the wax from the tops of their jelly jars the children will soon gather enough to make a model. Melt the wax together and run into a tin can to serve as a mould. When it is nearly cold remove by cutting the tin. Follow the same steps as with soap. If desired a wax crayon could be melted in with the paraffin to colour it. This translucent wax gives a good effect. Remember that models of this kind soften in a warm atmosphere. In winter they may be carved but in summer must be modelled.

Plaster of Paris is used for carving material. Mix with water in a large can or bowl to form a paste. Pour immediately into a cardboard box or paper cup. As soon as it is firmly set tear the box away and you have your plaster block ready to begin.

Now take a knife and follow the method outlined for soap carving. This material is harder to cut than soap but is also more permanent and less likely to break while one is working on it. Some children may prefer this medium while others will undoubtedly like the soap.

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CHAPTER 30.

PAPIER MACHÉ.

A COMBINATION of paper pulp, paste, and a little glue, is called papier maché. The material is by no means a modern innovation, for Orientals have known and used it for centuries.

Paper pulp should be regarded as a modelling material to be used much like any other. Any model, which has not much fine detail, may be made in this material. It dries to a pale gray, and is very light in weight. Contrary to one's expectations, it has amazing strength. Because of its slight cost, large and permanent models are often made from it.

The making of papier maché may be a task for senior pupils, but even primary children can model from it with ease.

The most serious drawback to this pulp mixture is in its making. It is necessary to experiment a little to learn just how fine the pulp has to be, and just how it should feel when ready for use.

If you are near a pulp mill it may be possible to get barrels of waste material for nothing, with a saving of much time and effort. For those not so fortunate the directions which follow should prove to be satisfactory.

(1) Tear old newspapers into small pieces and put to soak in a large saucepan. There should be plenty of water to cover the paper. This soaking may be continued for two or three days with occasional stirring. If preferred, put

the pan on the stove and boil for an hour or two, stirring often to break up the paper. When the paper is reduced to bits of pulp take it from the stove and cool.

(2) Squeeze the water out of the pulp with the hands.

(3) Mix cold water paste, or cook flour paste. In either case it needs to be quite thick. Add about a tablespoonful of liquid glue to each cup of paste. This will prevent the papier maché from crumbling. If powdered glue is used it should be soaked first.

(4) Mix the pulp with half as much paste. Knead it like dough until the whole is even in texture and does not stick to the hands. It is now ready for use. This mixture will keep for a day or two but in warm weather the paste will soon sour. A few drops of Lysol, oil of cloves, or a little baking soda will prevent this.

Some recommend a variation of this method involving the familiar salt and flour mixture. Use them half and half, mix with paper pulp in a very little water, and cook for a few minutes. A doughy material results which may be modelled and painted when dry.

Instead of newspaper pulp, Kleenex or other tissues may be used. This makes a finer and more easily modelled material.

Puppet heads are easily modelled from pulp by wrapping a handful of it around the first finger of one hand and modelling with the other. The finger hole, as shown in fig. 157, serves for holding the finished puppet.

Masks are sometimes made in the following way. Make a clay or plasticine mound on a board. Grease well with vaseline and apply the pulp mixture in a thick layer over it. Model the features in the pulp. When dry remove from the base and paint.

Quite a different way of handling papier maché, more suited to senior children, is described in the following paragraphs.

Amusing masks of each other were made by the pupils of one class. These are their directions. Take brown gummed paper, used in wrapping parcels. Cut into strips ½ inch wide. Choose a classmate as a model.

First bind a piece of cheese cloth over the model's face, and tie at the back. Lay strips of dampened gummed paper over the cheesecloth with the sticky side next to it. The strips should overlap slightly. Avoid closing the nostrils or eyes but otherwise press the paper firmly into all the depressions. One would expect that the model would find the process uncomfortable but since the nostrils are not closed there is little difficulty. The next layer of strips is laid in a different direction. Continue for as many as desired. Three or four layers should be enough. Fig. 162 shows how the paper is laid in strips. Take off the mask, add a binding of paper around the rough edges, and allow it to dry. Then paint the features.

Satisfactory papier maché articles may be made using the method here described in making a waste basket.

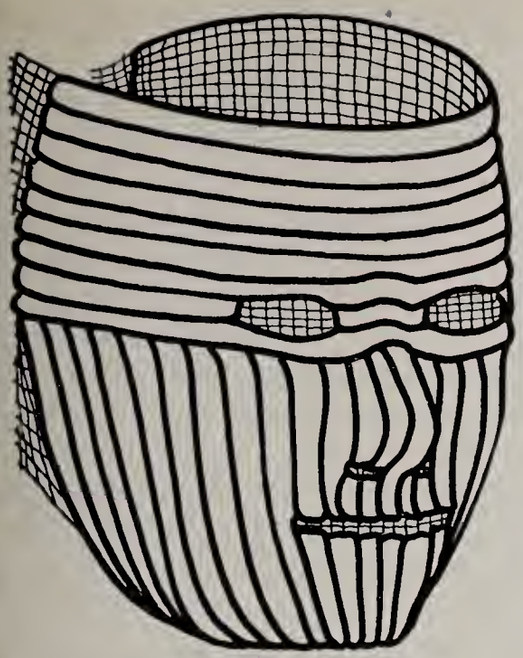
For paste, soak ½ cup of ground glue in ¼ cup of water. Blend 2 cups of flour with 3 cups of water. Add the glue and cook slowly. Stir until the paste is smooth and about the thickness of cake batter. Cool.

Select a tin basket or pail as a form. Apply the papier maché either to the inside or the outside of the form. Be sure that its shape is not curved inward at the top or the papier maché cannot be removed when done. Grease the form with vaseline or lard.

Fold three or four pieces of newspaper double. Measure the height of the tin and tear triangular pieces of paper 4 inches or 5 inches wide at the base and the same height as the tin. Cut a circle, the diameter of which is approximately 4 inches longer than that of the base of the tin. Put aside as a pattern for making the bottom.

It is always easier to use paper which has been soaked for a while first. Take a triangle of paper, and paste freely. If you are working on the inside of the form, place the triangle on the inside wall, paste-side away from the pail, large end at the bottom. Place the next one the opposite way, large end at the top and paste as before. Smooth out wrinkles and air bubbles. All joins should be overlapped a half inch or more. The second layer of pieces might be of comic or rotogravure sections to be able to distinguish the layers easily while working.

Using the pattern of the base make several



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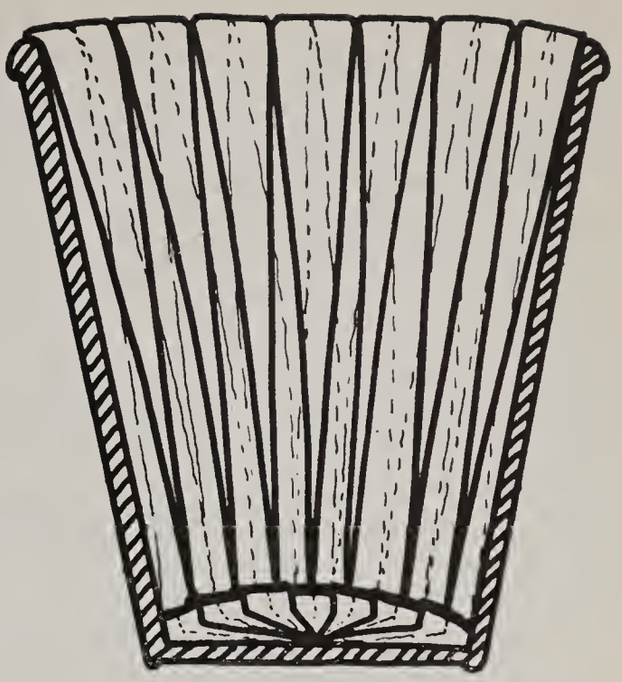

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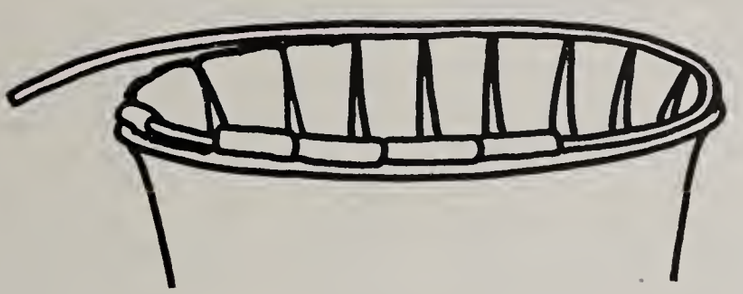

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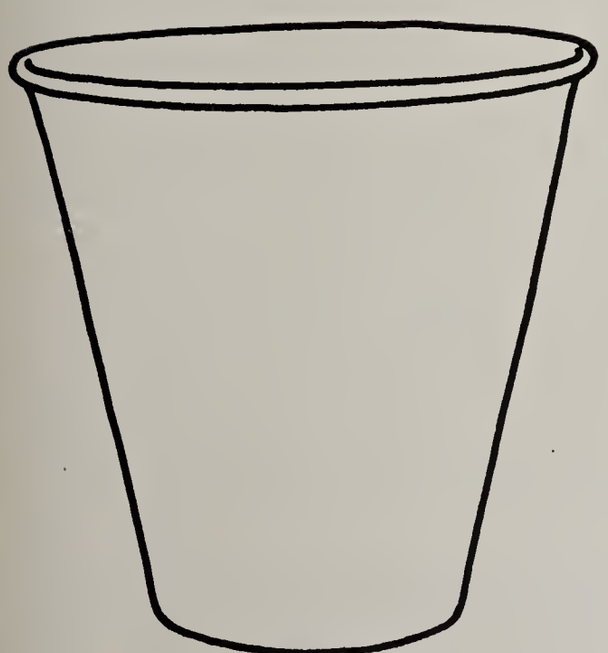

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copies. Tear these into pie-shaped pieces and cover with paste. Put in the bottom of the tin, paste-side up, overlapping and coming up about 1 inch on the sides. Make a second layer of the comic section. Fig. 163 shows the overlapping of these layers. Dotted lines show the pieces beneath.

The layer of comics or rotogravure may be followed with a layer of plain gray building paper, but do not overlap the sections because of the bulkiness of the paper. Place about six layers of newspaper and building paper alternately, then finish with a layer of newspaper. This makes a very strong basket.

Soak heavy cord in glue and lay around the rim. Cover with strips of paper 4 inches long by 1½ inches wide. See fig. 164. Repeat, trimming if necessary.

Dry evenly in the tin at first, changing the position of the tin every day for three or four days. Then lift out the papier maché and allow it to dry completely.

The piece may now be painted either with house paint or opaque water colours. If the latter are used, finish with one or two layers of shellac for the protection of the clean surface. The finished basket looks like fig. 165.

One may use as few or as many layers of paper as circumstances permit, remembering that the more layers, the more substantial. The building paper in the above had the effect of making a product which was amazingly light and firm. If desired the building paper may be omitted. Soaked picnic plates or paper towels are excellent for smaller articles.

Many people make the bottom and sides all in one, using the long triangular pieces. It is also useful to immerse the strips of paper in the paste, except the first layer and the last.

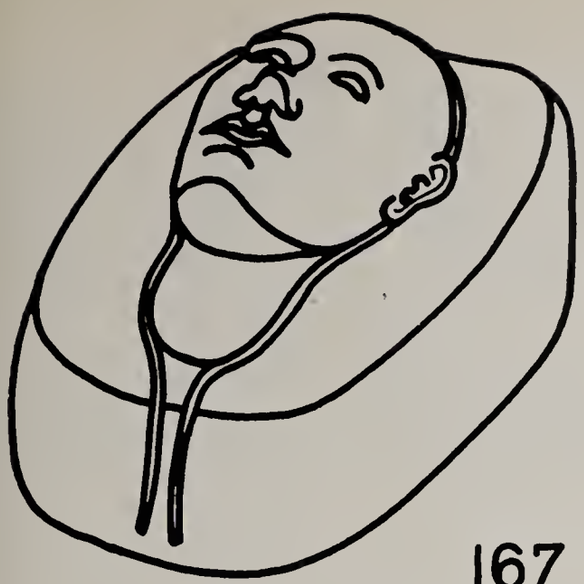
If desired the first and last layers may be made of coloured paper. In this case painting may not be necessary. Frequently the first and last layers are put on, each in one piece. It would obviously give a better finish if thin paper were used. Cheesecloth too, is extensively used for a first layer or perhaps every fourth layer might be of this material for added strength.

Papier maché is used to make puppet heads, hands and feet. It is packed into plaster moulds in a way somewhat similar to that described for the waste basket.

Suppose you have modelled a head in clay for a puppet. While it is still wet make a plaster mould and then fill the two halves of the mould with paper pulp. To do this, first grease thoroughly the whole surface of the clay model with vaseline or other grease. Lay a linen thread around the head beginning at the bottom of the neck, up one side, over the ear, over the top, down over the other ear, and so to the bottom of the neck as in fig. 166. The ends must hang free.

Now take about 1 pound of plaster and mix with enough water to make a smooth paste. It is important to stir rather than beat to keep from getting air bubbles in it. Pour some out on a board, covering thickly a patch at least an inch bigger all around than the clay model, and an inch deeper than half the thickness of the head. Sink the head part way into the soft plaster which is allowed to harden a little. See fig. 167. Pour on the rest so that the plaster is sure to be at least ½ inch thick all over. Watch it carefully and when it is beginning to harden, pull the ends of thread, and so cut the plaster in half (fig. 168). Leave until hard. Then pry the two halves apart and remove the clay model. Wash the two halves thoroughly and fig. 169 shows the result.

Now pack papier maché into the moulds which have been greased again. Use alternating layers of soaked newspaper and paste as was described for the waste basket. The paper should be torn in small irregular pieces and worked well into the depressions of the mould. Never allow the paper to crease but tear and overlap with paste instead. Five layers is ordinarily enough. Allow to dry for about two days, then take out of the mould and finish drying. Now trim and fasten together the two parts of the papier maché with strips of paper and paste (fig. 170). A piece of wood or cork fitting the neck and having a screw eye at the bottom, should be put in before the back and front are made fast. One may need to sandpaper the surface of the head to smooth it, or



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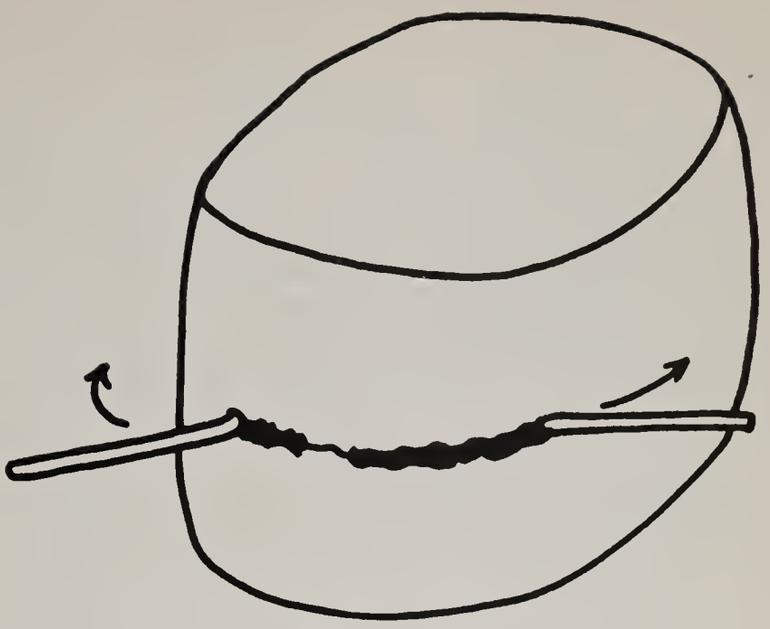

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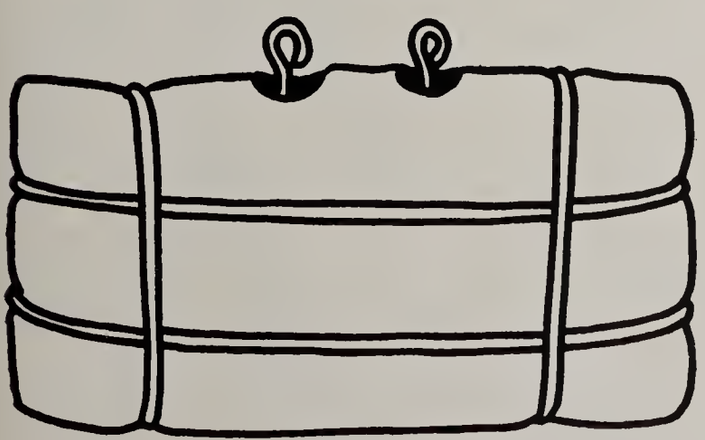

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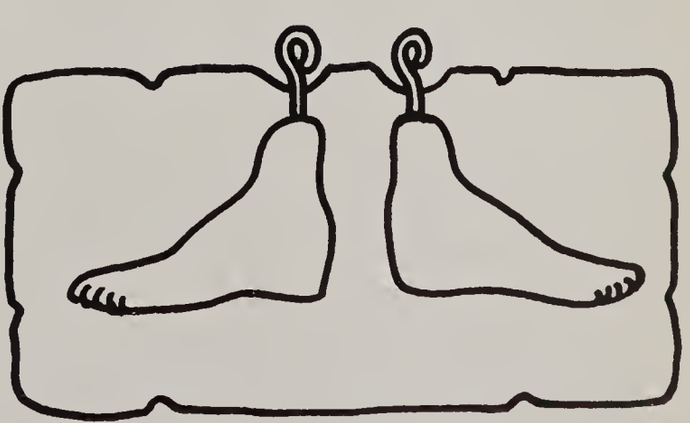

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cover the whole with a cheesecloth layer. The head is now ready to paint.

It is also very helpful to use a plaster mould in making a pair of puppet feet. Such a mould may be used over and over again. When filling the mould with papier maché, include a metal weight such as a piece of lead or iron. Better still, melt lead and fill the mould with metal entirely. In fig. 171 the mould has been tied together and filled. These lead feet will be excellent for the puppets. Here too, include screw eyes by which the feet may be fastened to the rest of the body. Fig. 172 shows the mould open and the lead feet ready for use.

Reference

Leaflet No. 93—Making Papier Maché. Dryad.

CHAPTER 31.

Puppets.

Children might be interested to know that puppets have been favourites since the dawn of history. They were used in the Orient, in Egypt, Greece, and Rome. We hear of them in Europe down through the Middle Ages. The British Columbia Indians used figures manipulated by strings in their ceremonies. The word puppet properly refers to all manipulated figures; marionettes are more complicated ones worked by strings. These little figures may be made in a variety of ways, and dressed to represent characters in stories and social studies. Young children can make simple ones and use them much as they do their dolls, holding conversations and performing all sorts of amazing feats. The older ones enjoy stringing the puppets properly and learning how to manipulate them so that they act, sing, and dance.

The simplest beginning is made with paper dolls from fashion magazines or catalogues. These are first managed by hand, and then sticks may be fastened to them either vertically or horizontally. Children may use jointed paper dolls and animals which are readily fastened together with paper fasteners, and are capable of movement.

A rag puppet may be made from a stuffed stocking foot, with holes cut so that the child's fingers may serve as arms. The puppet is slipped over the hand as in fig. 173 with the leg of the stocking forming the costume. Paint features and add yarn hair.

Simple hand puppets with papier maché heads may be made by even young children. The material for the heads is modelled around the first finger as shown in fig. 157. After being dried in a warm place, the heads are painted and the dresses are attached. These dresses have sleeves about the length and width of a finger of the owner, and a skirt which is 6 inches to 10 inches long. The sleeves may be finished with papier maché hands. The player's hand is thrust inside, the first finger into the head, the thumb and second finger into the sleeves.

To operate these puppets, the children squat behind a table which has been draped to conceal them. They then hold the puppet in view above the back edge of the table.

A special type of puppetry, which makes use of the player's face instead of the puppet's face, and of the player's hands as the puppet's lower legs and feet will be found interesting. For this type, a special drop curtain at the back of the marionette stage is necessary. The drop has oval holes cut in it to allow the faces of the players to appear. Pairs of round holes are cut below, big enough to allow the hands and part of the forearm to come through.

Costumes are made so that hats, hair, and the upper part of the costume are fastened to the back drop in the proper place. The arms should be fixed in position, as they are immovable. The trousers, skirts, and shoes must fit the hands of

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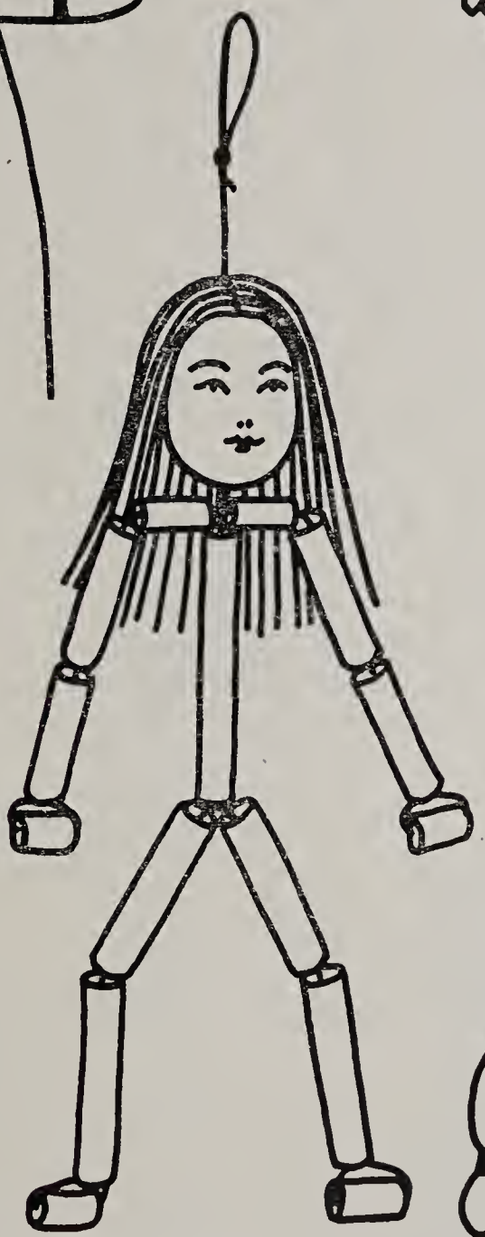

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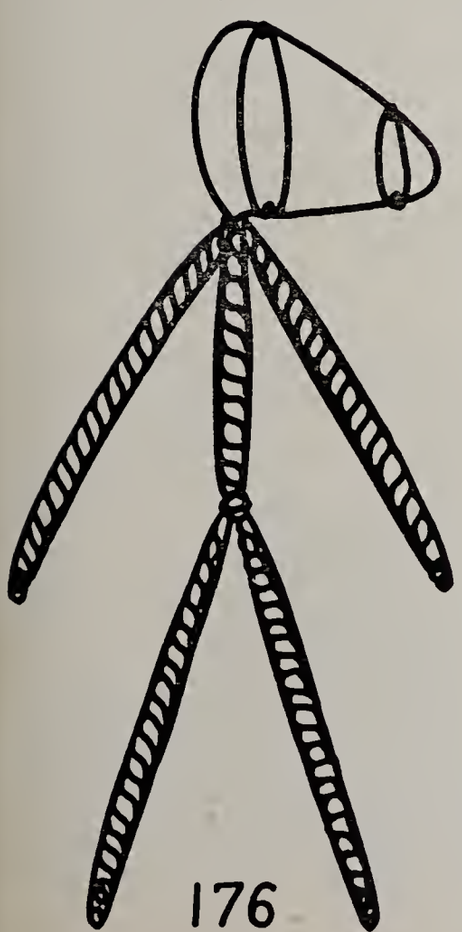

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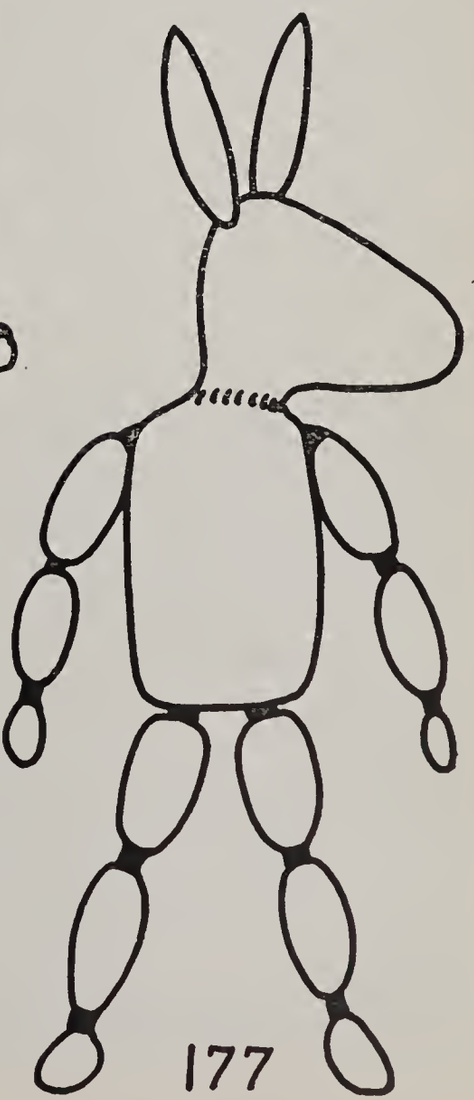

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the players. Although little action is possible in playlets thus staged, the dramatization gains much from the changing facial expressions of the actors.

Tiny hand puppets like the one illustrated in fig. 174 may be made by the children. It consists of a head about 1 inch long and a body stiff to the waist. The costume is put on, and an elastic band serves to hold the tiny puppet around the base of the first and second fingers which act as the legs. The thumb and other fingers are bent out of the way. This little puppet is capable of a wide variety of actions, although its arms cannot be moved.

A puppet deservedly popular because of its low cost, is one made entirely of newspapers, string, and cloth. The head is made of 1-inch strips of newspaper wound into a ball. White crepe paper, paper towelling, or thin cotton glued at the back covers the head. Yarn hair is made by winding yarn around a piece of cardboard. A parting for the hair is made by sewing across the yarn with a backstitch. Remove the yarn from the cardboard, and cut it across opposite the part. Sew to the top of the head.

For the body and limbs, roll a quarter sheet of newspaper into a long tube about ½ inch in diameter. Paste along the edge. Cut lengths with proper relative proportions for parts of the body as shown in fig. 175. Thread some string in a darning needle and join the legs together, beginning with the short piece for one foot, and slipping the needle through the tubes. Thread the two parts of one leg, then the other leg and other foot. Tie the thread around the foot piece and cut. Now string the arms in the same fashion going from one hand across to the other. Fasten off.

Take another string for the body. Fasten the end of it to the legs, go through the tube for the body and fasten the arms to it. Now pull the string right through the head, coming out at the top. Knot the string so that it can not slip back in, and leave the end for holding it when in use. Finally, paint features, and dress as desired. This one-string puppet is excellent for the boy or girl just learning to manipulate puppet strings.

A very good rag puppet may be made entirely of rope, wire and rags. An example designed to represent the March Hare in "Alice in Wonderland" is illustrated. The cord foundation for the body is shown in fig. 176. The ends were wound, and sewn back and forth with thread to prevent ravelling. They could be simply knotted to represent hands and feet. The head was made on a wire foundation. The outside shape was of cloth which was stitched, stretched over the wire, and stuffed. The ears, made in the same way, were then attached to the head, and the head to the body. Buttons were used for eyes. Then by means of a layer of glue, and a layer of cotton batting, the March Hare became a furred animal. Strips of cloth were wound tightly around the body and parts of the limbs, as shown in fig. 177. This method of winding leaves the joints free to move. Lastly, the puppet was dressed with an appropriate costume made from bits of left-over cloth.

Marionettes, much like those of professionals, are constructed of wooden parts. A good idea of the shape and relative size of these parts may be gained from fig. 178. Straight clothes pins cut very nicely into parts for the arms and legs. The projections at the elbows and knees are not absolutely necessary, but do help to prevent movement in unnatural directions.

As the hip and chest pieces are to be carved, choose a soft wood such as balsa. A dotted line in the diagram of the chest piece indicates the depression into which the head fits. The head may be fastened through to the under side of the chest piece, but must be free to wobble loosely.

The parts of the marionette may be fastened together in one of several ways:

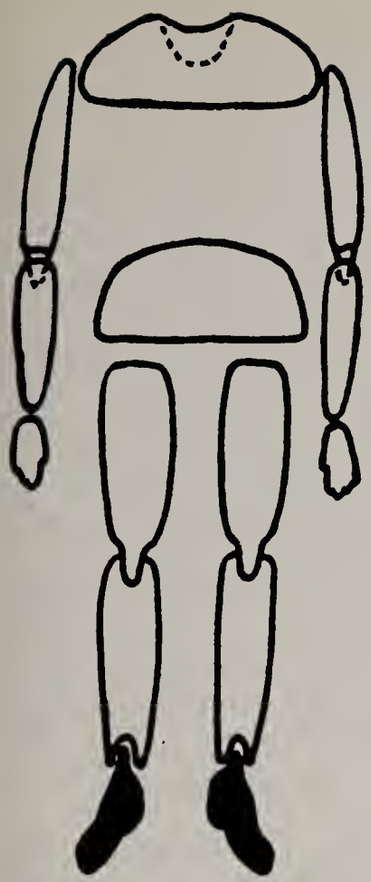
(1) Use factory cotton made into short tubes so that the parts to be connected fit into the top and bottom. Tack in both places.

(2) Insert strips of flexible leather in the slit ends of the arm and leg pieces. Tack. Use a tube for the middle of the body.

(3) Use rubber from an old tire tube instead of the leather.

(4) Pry open two screw-eyes. Slip them together and pinch shut. Screw into the adjacent ends of pieces to be joined.

(5) Make joints with screw-eyes and staples as illustrated in fig. 179.



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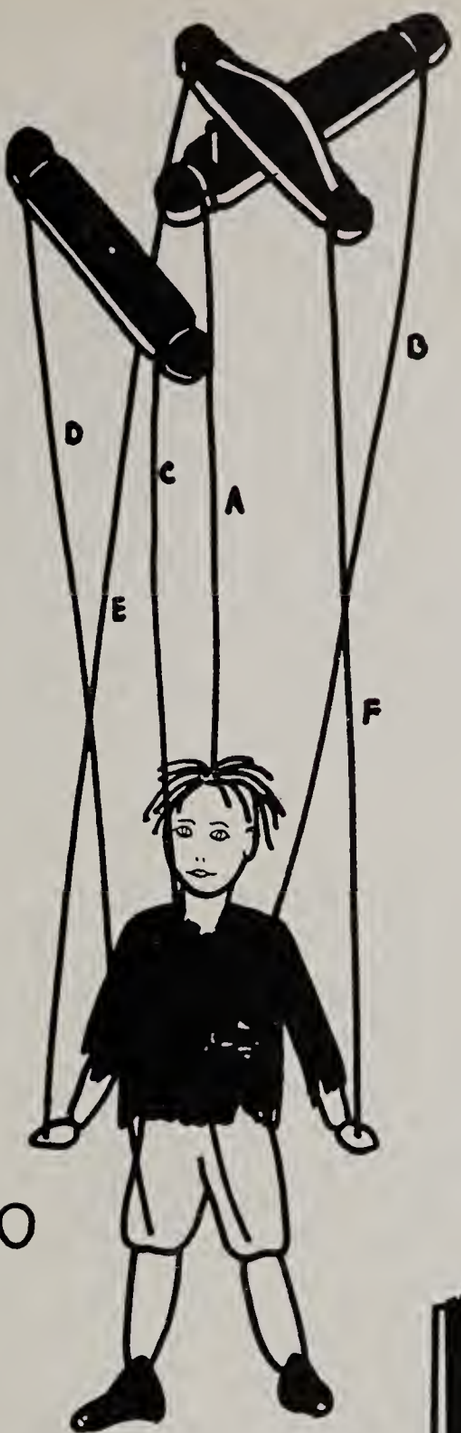

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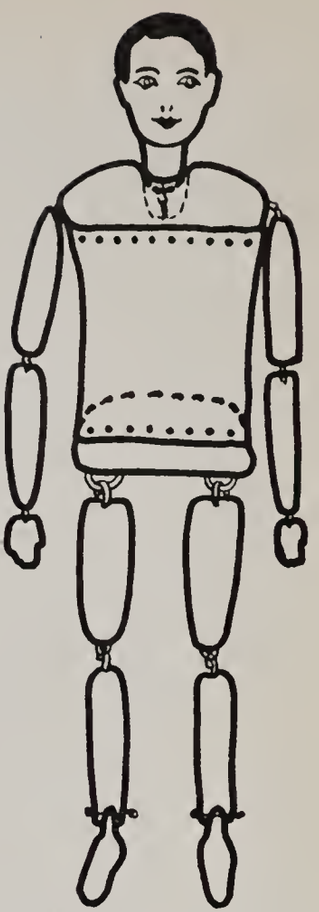

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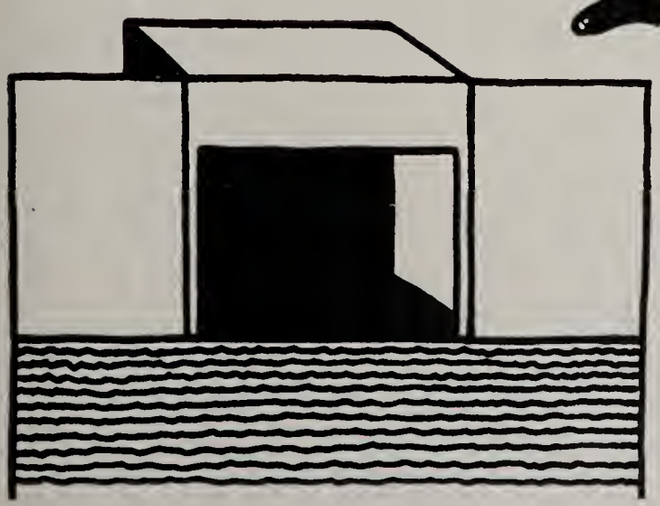

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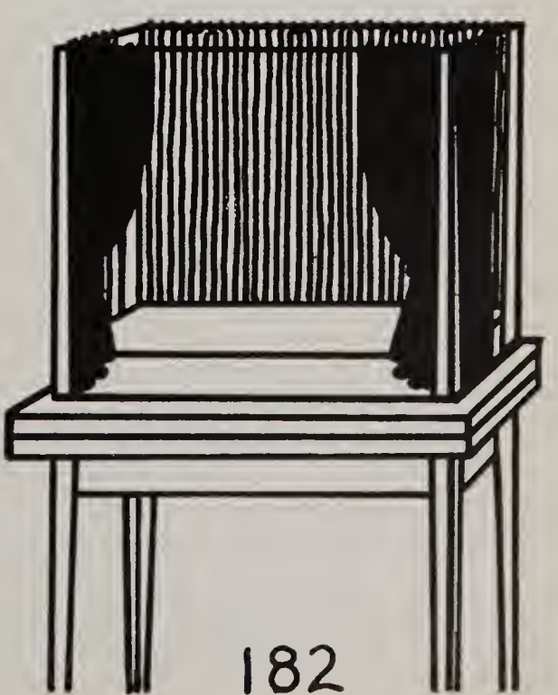

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(6) Use wire through holes for the hinges shown at the ankles in fig. 179.

Hands should be weighted, and may be made in several ways:

(1) Use papier maché and model them. The material needs to be quite fine.

(2) Make a wire shape, and wind with adhesive tape.

(3) Make a wire foundation and wind with thread.

(4) Make a cloth shape like a mitten and stuff it.

Feet present quite a problem. They must be heavy in order that the marionette may seem to cling to the ground in a natural way. The following suggestions are offered:

(1) The most satisfactory method usually is to model papier maché feet into which lead weights are inserted. The feet must be large in order to hold the weights.

(2) If you are really anxious to have good puppets, make a plaster mould as explained under the papier maché section. Melt lead and make castings. See figs. 171 and 172.

(3) Plaster of Paris may be carved to make feet but lead weights will still be needed.

(4) Feet are sometimes carved from wood.

(5) Cloth may be cut to shape, sewn, and stuffed. Add lead weights to the stuffing.

Heads for marionettes are usually of painted papier maché topped with wool, silk, cotton, raffia, crepe paper, or commercial hair. The neck of each head should be rounded off at the bottom and have a screw-eye inserted by which to fasten it to the body. (See the section on papier maché for details and drawings). Doll heads may be bought and used if preferred, but they are apt to be too heavy and are only suitable for certain characters.

Fig. 179 shows a completed puppet, ready for dressing and stringing.

The scrap box will supply plenty of materials from which to make costumes for the puppets. Clothes may be made of tissue paper, crepe paper, cellophane, or cloth. Paper doilies provide fancy touches for costumes.

It is important that the puppet be planned from the very beginning to represent a certain character. Proportions of the body, size of hands and feet, facial features, hair, colouring, and costume are all determined by the part to be played.

The children should become accustomed by easy stages to handling the puppet's strings. They should begin first with the string at the top of the head (A in fig. 180), and add next the string B attached to the seat. By manipulating these, the operator may cause the figure to bend over. When the two strings have been mastered, they may be attached to the ends of a stick, which will be controlled by one hand.

The next two strings to be added are C and D, attached just below the joints of the knees. These strings are attached to the ends of a stick to be held in the other hand. By movement of this stick the puppet may be made to walk. This is probably the hardest step of all to learn. When the walk is no longer jerky, and when the feet stay on the floor, the puppeteer is ready for further strings.

The hands are controlled by the next strings, E and F. These are fastened to another stick which is tacked at right angles to the stick controlling A and B. One hand is thus responsible for bending the body and moving the arms, while the other hand controls the legs.

If one wishes to go further, the head string may be replaced by two, one on either side of the head. (The two head strings make the puppet easier to manage because it cannot swing from side to side.) Sometimes strings are also used on the toes. When the operator understands the manipulation thoroughly, he will know how to string each puppet for its own particular actions.

The strings themselves are best made of natural coloured linen thread. Their length depends on the stage used, but they will probably need to be cut about a yard long. They may be fastened to the puppet in various ways, sometimes to the costume only, sometimes. to special staples or screw-eyes provided for the purpose. Some puppets have holes bored for threading and tying the strings.

The supports of wood to which the strings are tied, are strips about ½ inch wide and ¼ inch thick. Select a wood that will not split easily. The strip for the head and body strings should be 5 inches or 6 inches long, the others about 4 inches long. Their arrangement will be

seen in the drawing. A piece of elastic across the top of the arm strip is slipped over the hand of the operator, to avoid danger of dropping the puppet. When stringing the puppet, fasten the strings to the parts of the body first, then to the sticks. While the puppet dangles, adjust the length of the strings by winding them around their supports until the body and its parts are in natural positions.

Strings are sometimes knotted to the fingers of an old pair of gloves. This method is rarely advisable but may be useful at times.

When the puppet is not in use, the leg string support is placed beside the one for the arms, or is slipped over a nail. The whole is tied securely with tape. Tie another piece of tape around all of the strings halfway down. Then wind the whole mass of strings around the supports so that they will not become tangled. If the puppet does not have to be moved, keep it safely by hanging it up.

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CHAPTER 32.

The Puppet Stage.

A PUPPET stage simple enough for young children to make is illustrated in fig. 181. A large corrugated cardboard box has a rectangle cut out at the lower front to form an opening through which the players are seen. This opening is called a proscenium. If the puppets are to be operated on sticks from the wings, the sides of the box should be cut along their top, back and lower edges. This permits them to swing outward, and to form screens at each side of the proscenium to hide the players. If a permanent stage is desired, put wood frames around the side openings to keep them firm. This stage may be placed on a table with a large tablecloth to screen the operator's legs. Fig. 181 shows how to arrange it. For hand puppets, use this stage with the bottom cut out.

If the children are using puppets on sticks or strings that have to be worked from above, cut open the top of the box instead of the sides. Again cut around the top section on three sides and turn it up to screen the players from the front. Cut a rectangular piece out of the lower front. Set the box on a low table this time and move screens, if they are available, up to the sides. The stage is now ready.

Another simple stage arrangement is made with two tables. Turn one table upside down on the other and string wires or run strips of wood around the top from leg to leg. Cardboards or curtains may be fastened to these to fill the back and sides. It is well to leave exits in the sides near the front. Then the front stage curtains are fastened on. A floor of cardboard has to be fitted around the table legs to keep the puppets all in view. Fig. 182 shows how this is done.

If curtains are draped to screen all but the stage-opening, the operators will be concealed, and the performances will be much more satisfying, especially to older children. Chairs, or a bench, will be needed at the back for players to stand on.

A very good permanent stage for string puppets may be made from a large corrugated box with sides, top and proscenium cut out. A box so cut will wobble unsteadily until a frame of wooden strips is built to reinforce the top and sides. The stage is then placed on a table which is low enough to permit the players to work their puppets while standing on the floor. It may be necessary to have chairs or a bench along the back. A strong frame is needed so that the players may rest their arms on it when working. The back view of the stage, drawn as though transparent, is seen in fig. 183.

Some method of screening the top and sides of the stage is necessary. If a wire is run across the classroom, curtains may be hooked on when needed. A breadth of curtain material may be cut horizontally, so that one piece just reaches the top of the box, and the other hangs from the table-top to the floor. These points are illustrated in fig. 184.

With any of the stages mentioned above, one may use as much or as little stage setting as seems desirable. The scrap box will yield an amazing number of things which may be turned into curtains, rugs, etc. Ready-made doll's furniture is good if it is suitable in size for the puppets. If not, the children can make the pieces of furniture required.

Children's simple direct methods of painting are wonderfully effective in the making of stage scenery. Their results are not realistic, but convey the ideas clearly. Infinitely better is this than the product of a certain type of professional scene painter who puts every leaf on the trees, and every highlight on the moulding. Such work tries to fool us but does not succeed. It is better to admit frankly that we are using artificial stage sets and to let imagination do the rest.

Poster paint and other opaque water colours are the most satisfactory paints to use in making back drops, windows, doors, and trees. A wooden frame, or at least strips of wood on the top and bottom, should be placed on the cotton back drops. Give the cotton a coat or two of thin glue to act as sizing, and then paint on it. An old window blind makes an excellent back drop. Cardboard or building paper may also be used for this purpose.

Windows and doors may be used again and again if they are cut out and put in place with wire stitches or paper fasteners. Trees should be painted on cardboard or thin wood, and cut out. Put stands on the back and use them anywhere on the stage. A cardboard fireplace may be placed against any wall, and may be used and painted frequently.

Screens of three sections hinged together are exceedingly useful. They may change the shape of the room in various ways, and may represent parts of buildings in outdoor scenes. Flights of steps, railings, gates, walls and columns are all needed occasionally to give variety to the arrangements. It must be remembered that stage setting is just picture composition and obeys the same laws.

Some ways of holding stage scenery in place are shown in the small drawings. Fig. 185 shows how the top of the stage framework may be notched at each side to hold the projecting ends of the strip along the top of each piece of scenery. Pairs of blocks, like fig. 186, may be tacked to the stage floor to hold stiff scenery slipped between them. Columns may be fastened anywhere to a wooden strip across the top, by the method shown in fig. 187. Cut a notch in the column, bore a hole through the two parts and the strip, and slip a nail through.

The matter of lighting requires some thought. If light can be arranged to come from a window in on the stage, so much the better. If artificial light is required, hang a single bulb on a long cord in such a position that the light shines inside the top of the stage-box, but is out of the audience's sight. See fig. 183.

A string of Christmas tree lights does very nicely above the stage, or for footlights. Older children like to experiment with coloured lights.

Colour effects may be obtained by coloured shades on the lights, by boxes slipped over them, or by pieces of material held before them. Bright-coloured semi-transparent silk, tissue paper, crepe paper, or cellophane will be found useful.

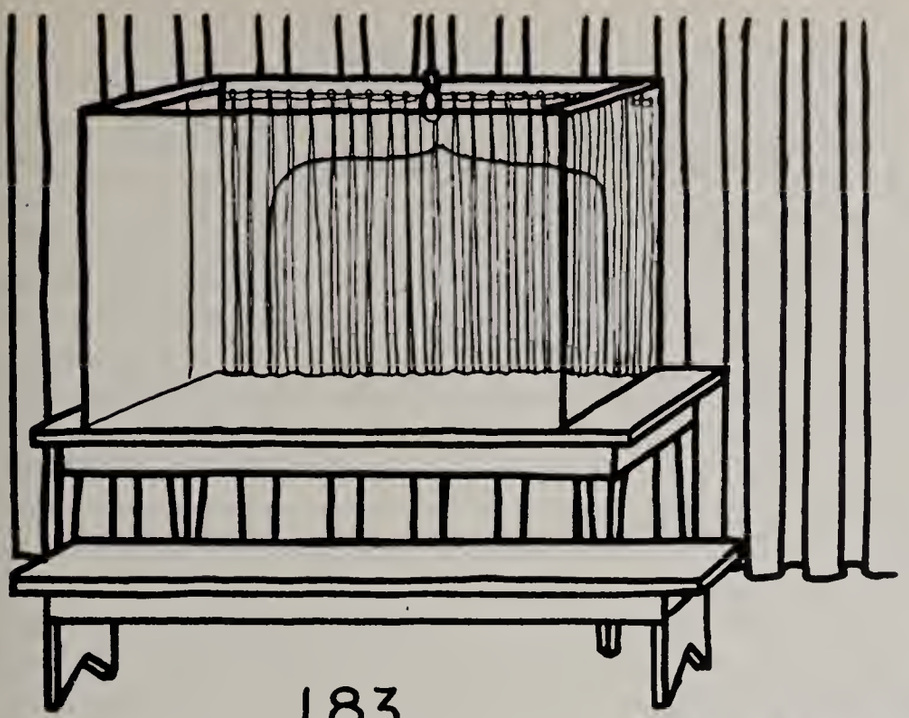
Remember that it is best to have light fall on the puppets from slightly above. The light should be near the front of the stage, for strong lights are only put behind the actors when special effects are desired. All sources of light should be screened from the audience.

It is usually convenient to have the front stage curtains pulled back from one end. In this way only one person is needed to pull them and they come back evenly. Fig. 188 explains how to rig curtains with rings on a rod to work in this way.

If the children wish to have their curtain roll up, they may use an old window blind for the purpose. The pupils may decorate such a curtain with a simple design.

References.

See the list at the end of Chapter 31.



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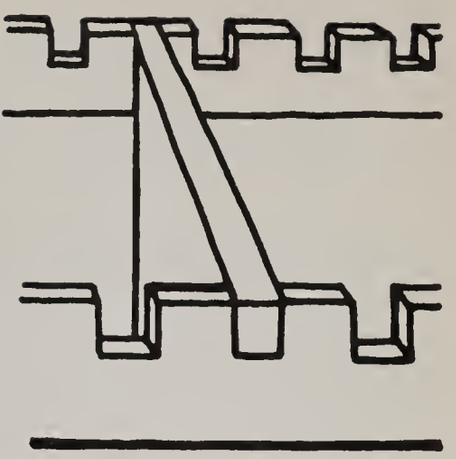

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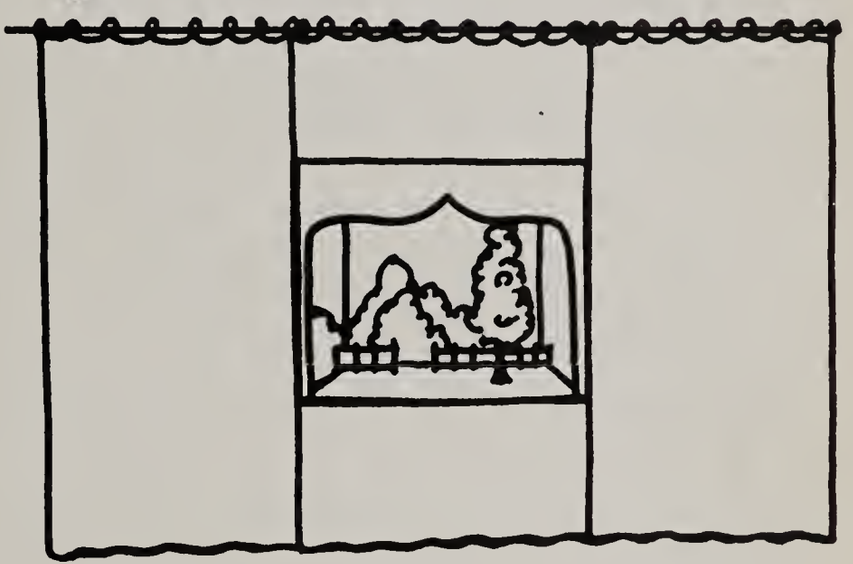

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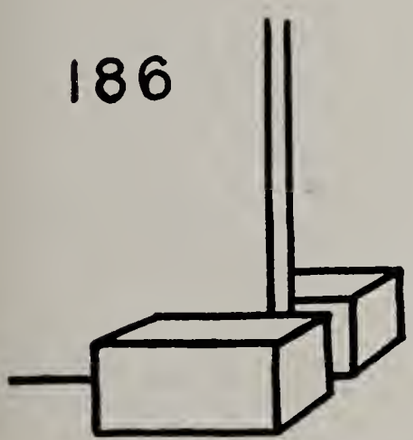

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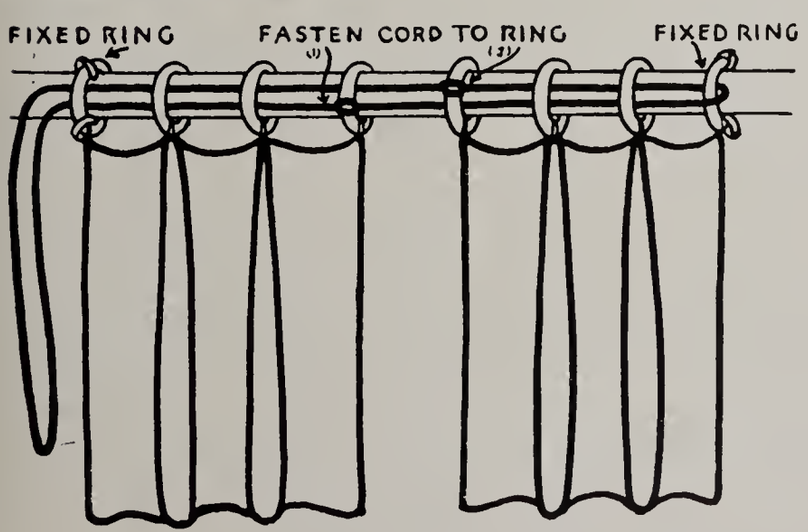

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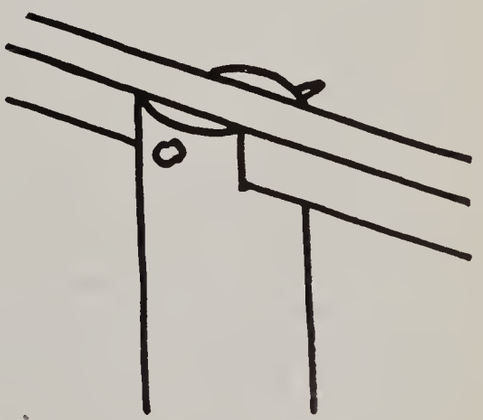

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CHAPTER 33.

Costumes for Children's Plays.

Since dramatization of stories and historical incidents has become so popular in schools, there are many occasions when special costuming is required. The materials for costumes must be easily available, and must cost next to nothing.

Around most homes there are many odds and ends that can easily be turned into costumes. It is suggested that a box of such materials be kept in the classroom and that the children be asked to contribute whatever they can. It is important, however, to keep all soiled material out of the box, and to make sure that it does not become infested with moths.

Costumes for plays are planned differently from ordinary clothes. The stage costume should appear effective to the audience at some distance; it need not be well or neatly made, as it will never come under close inspection. Fine detail in sewing and trimming not only loses its beauty when viewed from a distance but may even detract from the effect of the dress by making it look blurred and indefinite.

Expensive materials are not always the best for stage clothes. One often hears of a "faked material" which looks more like the real thing at a distance than would the real material itself. It is best to look at materials from some distance before buying them. If the performance is to be given at night, judge the material under artificial light. Some colours are lovely by day but hopelessly ineffective at night.

Whether the costume is to be worn for a classroom performance by day, or for an outside audience at night, several definite points should be borne in mind.

(1) Decide exactly what impression the costume is to convey. A fairy, for example, should look airy and delicate, the king imposing, and the old witch fearsome. Having chosen an effect, concentrate upon it. The costume must express that effect and everything else must be subordinate to it.

(2) What silhouette will best express the central idea? Use long flowing lines to make the king dignified, use jagged lines for the witch, and a very short full costume for the fairy.

(3) What materials and colours will best express the idea? Try to think of something a little different in the way of colour. One does not need to be too conventional. Decide whether the colour should be light or dark, bright or dull, warm or cold. Then think of the scenery and other characters. Against very dark scenery a black costume would be most ineffective for a main character but excellent for the witch who should be dimly seen to give a spooky effect. The principle of unity comes in here in dressing the main characters to make them stand out. Let them contrast vividly with the background and the other characters. Let them have the strong colours as a rule, even though the proud mothers of the other players may not like it so. The effect of the whole is more important than that of individuals.

(4) Decide what materials may be used for each costume, what altering must be done, and what purchases are necessary.

A few typical uses for common and discarded materials are given here. These suggestions may start the children thinking along the lines of their own particular needs.

Wool which has been washed and combed is excellent for certain wigs. Sew or glue either wool or yarn on a cotton skull cap or the top of an old lisle stocking. A seam holding the strands in place may be made with a backstitch in a position to represent the hair parting. The ends may be straggly, curled or pinned up in any fashion suitable for the character represented. Beards and moustaches may be made of the wool too. They require a cotton foundation which should be shaped, all fastened in one with the wig if possible, and stuck to the player's face with a bit of paste or adhesive tape. Colour the wool a little to keep it from being unnaturally white.

Cotton batting is useful for a variety of things such as stuffing, snow (especially when

sprinkled with a little of the artificial snow sold at Christmas time), fur, wigs and beards.

Sugar, flour and potato sacks all require thorough washing before being used. The white sacks may be dyed any colour and sewn into any desired costume. The potato sacks do very well for shepherds, serfs, and lowly folk.

Brown paper makes wooden shoes when fastened over the child's own shoes. Fold and paste the paper to shape. It is preferable to leave them without soles so that the movement of the feet will not tear them. Brown paper will also make a variety of hats and shields, and will represent leather very well.

Cardboard is useful for many things. An effort should be made to gather a great deal of it in various weights and sizes. Nothing is more useful in the art classes than cardboard. Use it to make crowns, witches' hats, stars, swords, shields, etc.

Black stockings with holes cut for the eyes and mouth may be pulled over the head for darky faces. Use them also for arms and legs. Mediaeval costumes need coloured stockings.

Old felt hats are very valuable when they come to school. They may be cut to any desired form, and may be trimmed with feathers or other finery. Felt may be stretched easily into almost any shape by holding it in the steam from a kettle for a few minutes. It is easy to keep the general shape but to alter one portion by steaming just that part. When damp, stretch into place and press. Brims may be changed by ironing with a damp cloth, stretching while damp, and ironing again. If the new shape is very different, dip it entirely in water. Then pull and pat it into place. When dry, press with a damp cloth to produce a neat appearance.

Pieces of felt are useful for making shoes. Cut soles by tracing around the foot. Then make tops in any desired shape. These are easy to fit, and wear well. They may be laced on, or held with elastic.

Coarse woollen socks rolled down are good for mediaeval footwear.

Oilcloth makes good shoes or boots if they are soled with another material such as felt. Use bias tape and outside seams to fasten soles and tops together. High boots for Russian figures, Santa Claus, or cowboys may also be made of oilcloth, and are worn like gaiters with elastic under the foot. Then other shoes are worn over them.

Cellophane is a light, delicate-looking material which is becoming extremely popular for costuming. Lovely shimmering effects are obtained with it. It is necessary to sew the cellophane to a garment which forms the foundation of the costume. Cellophane may be used for hair of mermaids and fairies. For this purpose buy it already cut into strips. Wings of cellophane will stick out stiffly and may be decorated with dark shapes like the wings of a butterfly.

Grown-ups' cast-off clothes are frequently of fine material, and help to give richness to costumes. Alterations may be made by means of a few bastings and pins.

Big handkerchiefs may be used to give the final touch to the nurse, negro, gypsy, cowboy or bandit.

Crepe paper is an "old reliable". Fancy costumes are made by sewing the paper on a factory cotton or cheesecloth back, or by using it alone when the life of the costume is to be brief. Fairy, princess, bird, and nineteenth century costumes are often made from this material.

Wire is always needed. There should be a collection of various kinds of wire in every school. Hoop skirts need two or three circles of graduated sizes. These should be fastened with string in four places about a foot apart. The dress is just hung over the framework. Wings of angels and fairies are made by sewing cheesecloth over a wire frame. If the two wings are fastened together with wire it is easier to put them on the child. Shepherd's crooks may be made of wire with brown paper wound around, or of a broomstick with wire for the crook. Wind the whole with paper.

Sateen is comparatively expensive, but it makes rich-looking costumes such as kings, noblemen, or fine ladies need. Remember, however, that sateen should not be used if other costumes are of silk, as the sateen will look cheap in contrast.

Horsehair is used in the same way as wool for moustaches and wigs. It may be sewn in

the same way. Use for Indian's or for witch's hair. It is also good for stuffing.

Cheesecloth is extremely cheap, and makes foundations for a variety of other materials. Fairies' or angels' dresses may be made of cheesecloth alone if starched slightly.

Children's sleepers are useful for animal costumes. Ears, tails and strips of cloth when sewn on will convert them into almost any animal.

Old underwear is excellent for any costume that must cling tightly to the wearer. This knitted material can be used where woven cloth would not lie flat enough. Dye long-legged underwear for animal costumes. Make a hood and a papier maché mask. Zebra stripes, giraffe or leopard spots may be painted on with poster paint. Add a tail and the costume is complete.

Sheets are used for ghosts or for Greek and Roman costumes. It is not necessary to ruin a good sheet for a ghost costume. Simply use a pillow slip for the hood by putting one corner back into the other. Put it on over a white mask. Then double the sheet and drape the fold over the shoulders, thus securing the end of the pillow slip. Hold the forearms out in front while the surplus sheet is pulled up from the sides and draped over the arms. This keeps the sheet from dragging on the floor, and leaves the hands free. Pin in a few places.

Crepe hair is not very well known to amateur groups but it solves many wig, beard and moustache problems. It may usually be bought from theatrical supply companies. It comes in braids which are unravelled and stuck in place with spirit gum on the face, or with glue on cloth. Dampen it slightly, do a little barbering and curl or finish off in any way.

Cheap jewellery is useful for trimming costumes such as crowns, the queen's robe, the gypsy's dress, etc. It is important to keep children from wearing jewellery unless it is definitely needed for the characters. Otherwise it is very much in the way.

Flowered curtain materials are useful for figured dresses. Very rich effects are obtained by cutting out these flower patterns and fastening them on sateen or other material. Small printed materials are not of very much use except in the classroom where distances are short.

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CHAPTER 34.

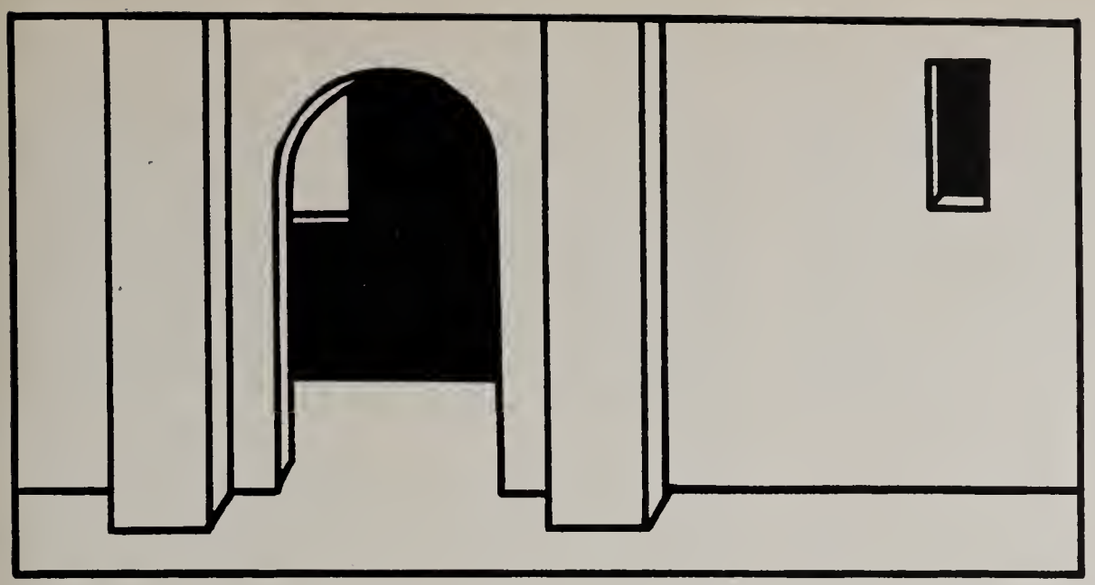
Stage Sets.

The dramatization of stories is so popular in the modern school, that some suggestions for stage sets may prove welcome to teachers. For the usual classroom plays, little setting and few properties are required. When the performance is prepared for parents or the public, however, a stage with proper curtains and lights is desirable. Sometimes a community hall provides the solution, with stage, curtains, and dressing-rooms complete. Sometimes the school has to make the best of an ordinary classroom strung with curtains. Even this situation is by no means hopeless.

First of all, for public performances, a platform is needed. It is extremely difficult to perform satisfactorily if the players cannot be seen below the waist or shoulders by the audience. Even a platform 2 feet high is a great help though 3 feet to 4 feet is much better. The area of the platform should be as great as possible.

There should be two dressing rooms, one on each side of the stage. If cloak room doors open from the front of the room nothing could be better. When dressing space has to be curtained off there is always the distraction to the audience of bulging curtains and whispering.

While draw curtains across the front of the stage are not absolutely necessary, they are very helpful in covering stage changes. It is im-



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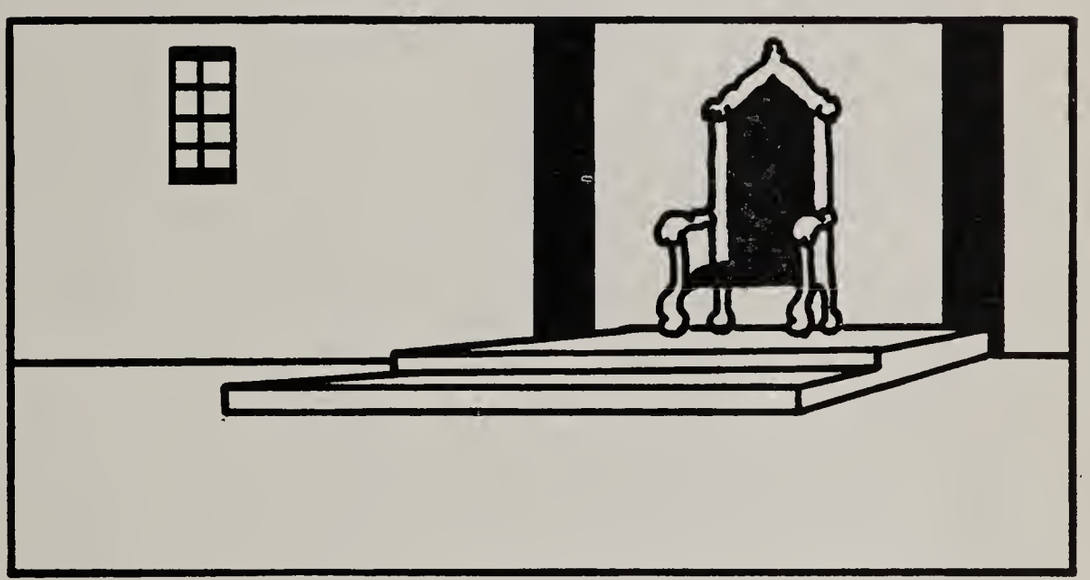

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portant that the curtains should be firmly fastened to the rings which should slide easily upon a wire. Fig. 188 shows a method of arranging them to open from one side. The material needs to be heavy enough to stop light coming through and should be simple in design. As the expanse of the drawn curtains will be broad, the colour should be quiet. The curtains need to be ample in width so that even when closed tightly they will still hang in folds.

If the top of the stage is open entirely it is well to have some way of framing the top of the stage picture when the curtains are open. It is also necessary to hide the tops of the stage sets. To do this a wide valance is fixed in front of the draw curtains. This may hang in folds or be straight. Its edge may be ornamented with some sort of braid or fringe. In placing this valance, try it in various positions. It must be high off the players' heads, about eight feet from the floor at least, and go up far enough to cover all framework even as seen from the back seats.

Luckily for schools, modern stage sets are simple. Gone are the days of canvas back-drops adorned with realistic castles, streets, forests, and even with furniture painted to the last highlight. Scene painters of yesterday tried to make us think that obviously false scenes were real. Stage sets are now frankly stage sets, and are conventionalized. They bear the same relation to real scenes as conventionalized flowers do to the real blossoms. The designer uses a few outstanding characteristics and ruthlessly omits the rest.

Effective settings, although simple, are not obtained without some thought. Concentrate on the message which the setting is to convey to the audience. If the scene is a poor bare room, let each of the few properties used add to that impression. Omit details which make no definite contribution. If the stage arrangement in any way takes the attention of the audience from the players something is wrong.

Some of the leading modern theatres make extensive use of curtains in their arrangement of stage sets. We amateurs may copy this practice, and thus solve many of our problems. We may use full curtains permanently fixed to the sides and across the back of the stage. As there should be a passageway left behind the stage, bring the curtains forward about 18 inches. Arrange exits at the sides and back. Since these curtains form a permanent background, their colour should be such as to enhance the effect of the various costumes seen against them. Dark blue or green curtains serve excellently as almost any costume colour will look well in front of them. Natural coloured factory cotton, crash, and hessian make good backgrounds.

Another method of creating an effect simply is to build up the background with flats. These are wooden frames braced at the corners and covered with canvas, factory cotton, or hessian. They should be usable on both sides and be braced at the bottom to stand up firmly anywhere. They are just screens of varying widths made up of several folds hinged together and ready for opening out as needed. These flats should be high enough to be out of sight at the top. Except for width all are exactly the same. They should be coated with thin glue sizing two or three times and painted all alike. Flats in real theatres are painted with small dabs of a number of colours all of the same value, and are made to appear any hue by means of coloured lights.

A short flight of steps, an archway, and a platform or two are useful in addition to the flats. If painted doors and windows, a sky backdrop, cut-out trees, and a few pieces of furniture are also available, many varied arrangements are possible. Examples are illustrated in figs. 189 and 190. Fig. 191 shows what may be done with a window fastened over a curtained background. Doors may be similarly used

Even with simple scenery the lighting of the stage is most important. If only one light is available, hang it near the front of the stage in the middle, so that it is out of sight of the audience. If there are two lights, the best places are at the sides of the front of the stage, a little above the players, so that the lighting of their faces and figures is natural and pleasing.

Movable lights are very convenient. They should be fixed on stands with reflectors behind them so that the direction of the light may be adjusted. With these, too, coloured effects are possible. One may get coloured bulbs or use

pieces of coloured material fastened in front of the light. Footlights may be used although they are not as popular now as they used to be. They light figures in a peculiar fashion unless there are other lights to counteract their effect. A string of lights concealed from the audience is sometimes placed above the stage. These may be put in a trough built for the purpose over the draw curtains.

By experimenting with lights in different positions, strengths, and colours, some splendid results may be obtained. Needless to say, the experimenting should be done with the players on the stage in costume, before any public performance has been presented.

Children particularly are quick to fill in imaginatively the detail of a stage setting, if its pictorial composition is good, if its lighting is effective, and if the scenic suggestions are skilfully used.

REFERENCE

Knapp—Lighting the Stage with Homemade Equipment. Baker.

CHAPTER 35.

PICTURE MOUNTING, FRAMING AND HANGING.

As long as the dusty illustration from last year's calendar is regarded as the "nicest" picture on the walls of so many homes, we shall need to make a special effort at school to develop good taste in pictures. The children's ability to discriminate between the tawdry and the beautiful will depend very largely upon the quality of the things which come within their experience at home and at school. A powerful influence in raising their standards is the appearance of the classroom itself with its pictures, bulletin boards, and displays of children's work.

Many schools have on their walls "dead pictures", reproductions which possibly were the best procurable in their day, but which, in the eyes of people accustomed to modern colour printing, seem hopelessly dull. Teachers and children are only vaguely aware of their existence. It would be far better from every point of view to have on the walls interesting magazine pictures in simple cheap frames, even though these pictures are not "old masters", but are chosen merely because they are interesting to children.

But we can do better than that. Really good reproductions of worth-while pictures may be bought very cheaply. The National Gallery at Ottawa, and the Art Gallery of Toronto have some such pictures for sale.

Need pictures be regarded as permanent furnishings, either at home or at school? Too frequently, we allow pictures to hang in the same places for years until no one ever looks at them any more. When this is the case, the pictures should be removed and stored away carefully until the time comes when they will again be received with enthusiasm. Why not refresh your classroom with different pictures two or three times a year, particularly if the children remain in the room for more than one grade?

Printed pictures, drawings and water colour paintings are usually framed with a mat (a paper border around the picture and inside the frame), while oil paintings or their imitations are not. Printed pictures include etchings, lithographs, woodcuts, lino cuts, engravings of various kinds, etc., as well as reproductions of paintings. All of these are made by a printing process of some sort.

Since these pictures have a paper foundation and need protection from dirt, they are commonly covered with glass. Oil paintings do not require glass and are usually left without it because the light reflected from glass makes it difficult to see the picture from certain angles.

Frames used for printed pictures should be narrow and quite simple. At no time should the frame intrude itself upon your attention

before you have seen the picture in it. Frames should harmonize with the pictures in colour and design, and also with the walls on which they are to hang. For example a bold, severe picture should be framed accordingly, and should be hung in surroundings where vivid contrasts are expected. A delicate water colour painting requires different treatment. It needs a large mat in a light (weight) frame to play it up. Its beauty will be enhanced if it is hung on an unobtrusive wallpaper devoid of strong contrasts.

Oil paintings require heavy wide frames because the paint itself is a heavy thick material. Remember, however, to avoid ornate frames at all times. They are not in good taste and the pictures are overcome by them.

Mats for pictures may be made in several ways. You may put the picture on the front of the mat, or the mat on the front of the picture, if a hole is cut for the picture to show through. The latter is the better way, the former the easier. In either case the picture is glued lightly to the mat only at the top corners or across the top.

Be sure to use fresh, clean paper or board for the mat. A regular mounting board is best since it is heavy and has a dull surface. Shiny surfaces are not attractive. Some papers yellow very quickly when exposed to light and this type of paper should be avoided. Coloured papers or boards may be used if desired. Of these gray and cream are favourites, although black and pastel colours are now common.

Artists are putting very wide mats on their pictures. The mat is often the same width at the top and sides of the picture and considerably wider at the bottom. Here is an example which may help if you are in doubt. An upright picture 10 inches by 12 inches may have a mat 2 inches to 3 inches wide at the top and sides, with 4 inches to 5 inches allowed at the bottom. The frame then would be 14 inches by 18 inches or 16 inches by 20 inches.

Pictures are no longer hung up near the ceiling, where they tilt out from the wall in a very precarious-looking fashion, owing to the wire being fastened far down the sides of the frame. Pictures should be hung somewhere near the eye level.

You may feel that the space above the blackboard is very bare. Is there anything wrong with open space? Especially, is there anything wrong with it in a schoolroom where papers and children's work hang two or three layers deep on every part of the wall within reach? Upon taking a critical look at our classrooms, many of us will be amazed to discover how cluttered they are.

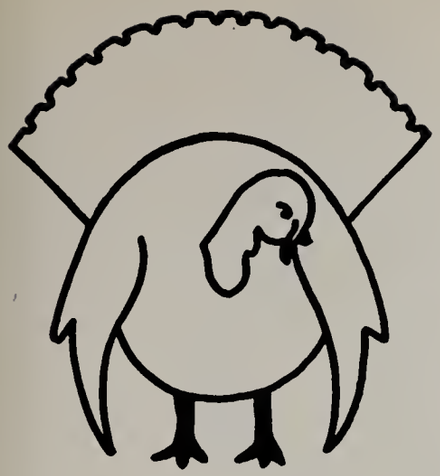
If possible, hang the pictures so that wires and nails are hidden behind the picture itself. If this means putting holes in plaster, two wires or cords for each picture may be hung from the picture moulding. Try to avoid two long black wires marring the appearance of the wall by painting them the same colour.

The arrangement of pictures on the wall usually requires some experimentation to get good balance. First the large pieces of furniture have to be placed, because their positions are apt to be restricted, especially in school. After this is done, take stock of the spaces left which are suitable for pictures.

Reversing this procedure sometimes leads to ridiculous arrangements. How often have you seen a picture partially hidden by a piano or cupboard? The furniture was moved at housecleaning time but the picture was not. Why was it left? Well, the nail was there!

A short wide space should have a short wide picture, though not necessarily one of exactly the same proportions. A long narrow space needs a long narrow picture. But a space which is extremely short and wide, or long and narrow, is better with no picture. Tiny pictures are too insignificant to occupy space on the wall and had better be left off for they merely give it a cluttered appearance. Occasionally though, small pictures are grouped with larger ones in a formal or informal arrangement with success.

The mounting of drawings and arrangement of displays should follow the same general principles. Margins should follow the same rule, and be wide enough to show up a drawing, but not so wide that it becomes lost. The colour of a mount should never overpower the drawing. That is why dull colours are best for



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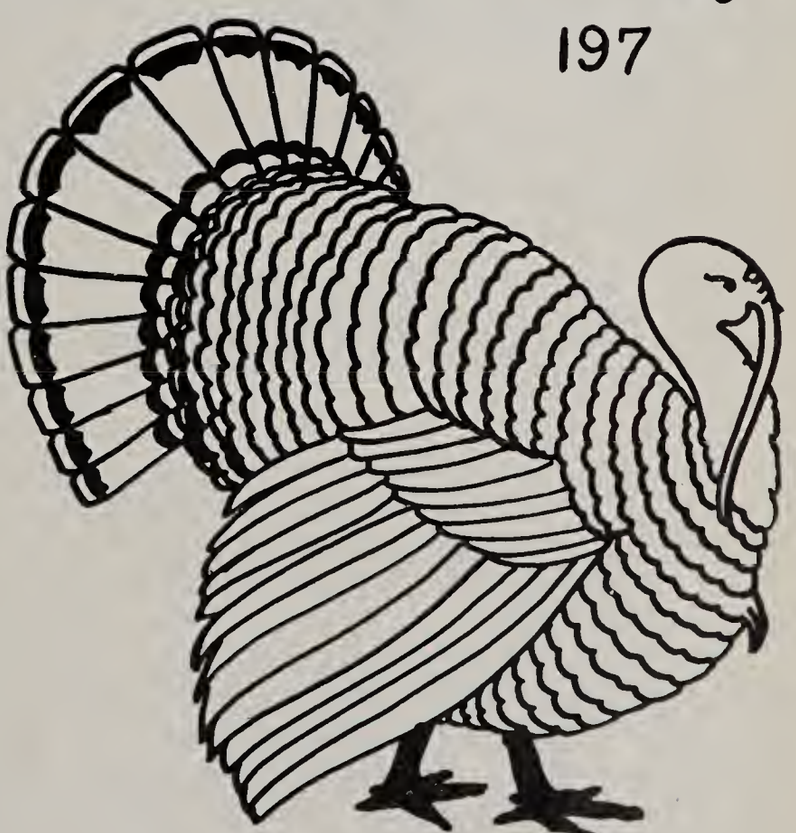

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mounting. Children's work, notices or clippings should be placed with care, if they are worth putting up at all. Give them every chance to appear at their best. Even a mediocre display of work can look very attractive if well hung.

Group small drawings or clippings using your knowledge of balance. This is just as much a problem in design as is the layout of a book cover. Allow plenty of space around the group so that there will be no interference from other displays. This will mean constantly taking down drawings and clippings to make room for more, but that is as it should be. Displays that are constantly new will fulfil their purpose by attracting the interest of the children from week to week.

CHAPTER 36.

Odds and Ends.

I. When children are drawing flowers, leaves, or branches, it is often a problem to arrange the specimens where they may be easily seen, distinct from the confusing background of the room. A very simple way to overcome this difficulty is to cover a large flat surface, such as an exercise book or piece of cardboard, with a sheet of white paper. Hold the sheet on with a rubber band running from side to side. Then slip the nature specimen behind the rubber band, and arrange it in a natural position. The rubber band holds the object firmly without flattening it too much.

II. To enlarge a drawing "square it up". A drawing is made on a small sheet of paper, possibly 6 inches by 9 inches. Suppose you wish to draw this to scale on a sheet 24 inches by 36 inches. The two pieces of paper must be in the same proportion length to length and width to width. If they are not, length or width should be changed.

Divide the length and width of the small drawing by a common factor, 3 inches in this case. This will give us 3 sections of 3 inches in the length and 2 sections in the width. Join the points on opposite sides to divide the drawing into six squares.

Now the large sheet has to be divided into the same number of sections. This means that the sections will be larger—12 inches square.

The parts of the drawing which appear in each square may readily be drawn in the corresponding squares of the large sheet. If there is much detail in the drawing it would be wise to use a smaller unit so that there will be smaller squares.

III. A fixative which will partially prevent chalk and charcoal from rubbing off drawings is made by mixing five parts of wood alcohol with one part of white shellac. This should be sprayed over the drawing and allowed to dry for a few minutes. The shellac is sure to dull delicate colours a trifle, but not seriously.

IV. To keep flour paste from souring when kept for some time, add a little powdered alum and gum-tragacanth which may be obtained from a drug store. Instead of these one might use a few drops of oil of cloves or of Lysol.

V. To paint large surfaces, it is expensive to use poster paint. Use instead one of the cheap opaque water colour mixtures sold for decorating rooms. Deepen the colours with any dry pigment.

Dry colours sold by paint dealers may be used for large surfaces in school work if first mixed with a small quantity of liquid glue or glue sizing and water. One of the preservatives mentioned in IV must be added when glue sizing is used, if the paint is to be kept more than a few days.

VI. Simple metal hooks may be made to hold heavy drawings. Use a strip of tin about 1½ inches long and ½ inch wide. Make a slit near one end of it, long enough to hold a paper fastener. Slip the fastener through the paper to the back, then through the tin. Open out the prongs. Bend the other end of the tin over to make a hook.

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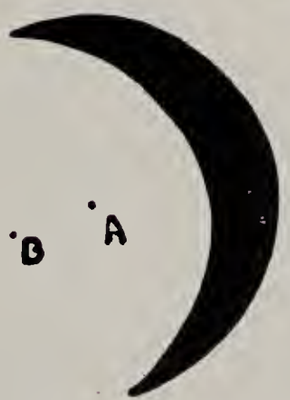

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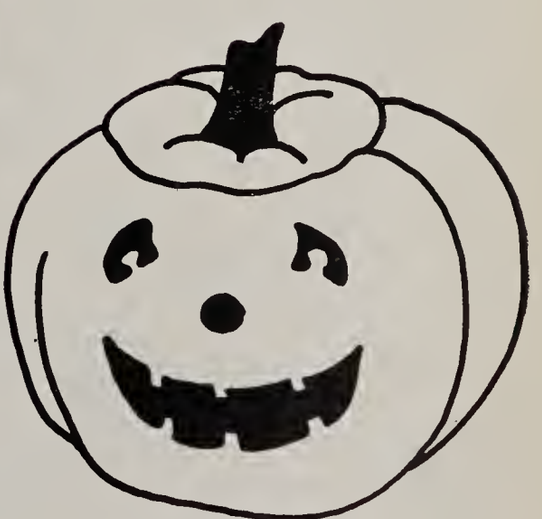

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VII. Cleaning paint brushes thoroughly requires a little time, but is well worth the trouble. If you have been using ordinary house paint, artist's oil paint or varnish, wash the brush well in turpentine. If no more is done the brush will remain sticky so finish with a good lather of soap and lukewarm water. Stroke back and forth on the palm of the hand, squeezing the suds well into the bristles. Rinse and turn up to dry.

Any paint which is mixed with water such as poster paint or ordinary water colours, will wash out with soap and water.

If your brush has been used for shellac or lacquer, turpentine is useless. Wash in wood alcohol and then in soap suds.

VIII. The scrap cupboard may be very useful in the schoolroom, and may save a great deal of money. It should contain only unwanted scraps from home such as bits of wire, string, cloth of all kinds, yarn, thread, trimmings, fur, sandpaper, house paint, cement, plaster, cardboard of all kinds, boxes, broom handles, cellophane, tin foil, ribbon, wrapping paper, fancy paper, paraffin, clothes pins, pieces of tires and tire tubes, picture frames, and milk bottle caps. It will be seen that the collection in such a cupboard is just like the collection in a boy's pocket, but on a larger scale. It is a great satisfaction to have what you want when you want it.

PART III

ACTIVITIES FOR SPECIAL DAYS

CHAPTER 37.

General.

Thanksgiving Day
Hallowe'en
Remembrance Day
Christmas
St. Valentine's Day
St. Patrick's Day
Easter
Arbour Day
Empire Day
Dominion Day

How children look forward to special days, and what pleasure they get from preparations for them! In our art classes we do well to take full advantage of such ready enthusiasm and of the chance afforded for variety of subject matter. The emphasis which we place upon each occasion will vary greatly according to its character and the benefits which we hope will result, but opportunities for development of originality, technical knowledge, and craftsmanship are certain to present themselves.

But who among us has not searched for some fresh ideas for the art class when some special day was approaching? Perhaps in the collection of suggestions given here something may be found to inspire your classes to new creations of their own.

Among the ideas which follow there are suitable activities for all grades. No attempt has been made to assign work to specific grades because it is felt that the teacher will be able to make a choice in the light of her knowledge of the class. Teachers and children should adapt the ideas to their own needs, by making simple things more elaborate, by making elaborate things simple, by taking a motif from one use and putting it to another, or by carrying out a suggestion in another medium. Only in this way can the drawings be really useful.

The work done in the art classes for special days may be arranged under the following general headings:

(1) illustration in two or three dimensions.
(2) definite correlation with other school activities.
(3) greeting cards.

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(4) gifts.
(5) classroom decorations.
(6) party favours, table decorations, menus, invitations, posters, programmes, and place cards.

A few general suggestions on each of the above follow.

(1) Illustrations in two dimensions are done in a variety of ways. The few outlined here may include some new to you.

(a) Small children may cut or tear shapes from coloured paper, then arrange and paste them on a large sheet. This work is not necessarily babyish and may be done in the higher grades as well.

(b) Pupils may draw the shapes on a large sheet of paper first, then cut paper to fit and paste on. This method, in which the arrangement is made first, seems more sensible, but it is also more difficult than the practice described in (a).

(c) The shapes my be drawn on a large sheet with charcoal or soft pencil. Then they are filled in with India ink to make a silhouette.

(d) Make drawings with charcoal or pencil on large sheets of paper. Colour them with chalk, crayon or opaque water colours.

A more detailed discussion of these methods will be found in the chapter on murals.

The three dimensional kind of illustration may take any of the following forms:

(a) the familiar sand table with or without painted or modelled background. Objects used may be of cut paper, papier maché, salt and flour mixture, clay or plaster. Plasticine is often used, but the sand sticks to it so badly that it soon becomes useless.

(b) the box picture. Simply take a cardboard box without a cover, turn it so that the open top becomes the open front. Paint or cut paper for the background, and place any kind of objects in front to stand free.

(c) the peep show. This is similar to the box picture except that the front of the box is closed and the top is open, or partly so. In the middle of the box front a round hole is made, an inch or less in diameter. This is where we peep in. Background and objects are arranged as in the box picture, remembering that anything very near the front corners will be out of view. Since the picture can be seen from only one viewpoint, keep this in mind when arranging the parts. Now paste a piece of cellophane or tissue paper over the top. Your peep show is complete.

Interesting lighting effects may be obtained by the use of coloured tissue paper or cellophane on the top. Try blue or blue-green for a cold winter scene. Amber or orange will give you the effect of a very hot day, yellow will give sunlight and so on. The children will be fascinated by this study, and incidentally will grow to appreciate the efforts of artists to get these effects in their pictures.

(2) Considerable work in English, social studies, and other school subjects may centre around the celebrations of the seasons and special days. Art and handwork may also be correlated. Illustrations large or small, and models made in a great variety of ways are favourite forms of activity. The different mediums and techniques described in this book should suggest new ways of carrying out this correlation. It would be a pity to allow this work to become stale and tiresome.

(3) Greeting cards have long been made in school at various times of the year, but the results are usually very insipid. A Christmas greeting copied from a card of last year, decked with scattered sprigs of holly, and painted in sickly colours, arouses no enthusiasm anywhere.

A study of the most modern Christmas cards will show how effective a simple design may be when carried out in an unusual way. The same is true for Easter cards, birthday cards, and all the others. Let us try for simplicity above all, for interesting pattern (arrangement of shapes), and for effective colours.

Paper cut cards are best for young children who usually complete only one. Older children may also use paper cuts effectively. See figs. 220, 221, and 246-251 inclusive.

Poster paint may be used for drawn cards instead of ordinary water colours. Opaque colours such as poster paints are seen plainly at a distance while the transparent water colours are not. For variety, try poster paint on dark coloured papers.

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Linoleum cuts make excellent cards and are very popular at the present time. Once the design is cut in linoleum any number of cards may be printed with little extra effort. The chapter on linoleum cuts gives full directions.

Stencils make good cards because the design is necessarily simple and strong. The making of stencils is also described elsewhere.

Try spatter cards and there will be no lack of enthusiasm for card-making. The chapter on spatter work explains how this is done.

Frequently children work hard on a card design, only to spoil the whole by the careless addition of unsuitable lettering. Study of good cards will show that the lettering is just as much a part of the design as is the picture or colour scheme. Lettering should be placed and drawn before the designing of the card is considered complete. It is wise to avoid fine lettering such as we see on engraved cards for our tools are not fitted to bring out its beauty. Old English should be sparingly used because it is not easily read. Suitable alphabets are illustrated in the chapter on lettering.

(4) Gift making provides an opportunity for the teacher to vitalize much pre-holiday work. A great deal has been written about the satisfaction to be derived from making gifts, especially if the receiver is a sympathetic person.

Throughout the previous chapters there will be found descriptions of things suitable for gifts, but for convenience a few are listed here:

(1) Desk blotters.
(2) Bookmarks.
(3) Match scratchers.
(4) Dolls of paper, cloth, papier maché, etc.
(5) Kitchen memo-pad holders.
(6) Paper or cardboard toys.
(7) Model aeroplanes.
(8) Booklets of animals, birds and flowers.
(9) Woven articles.
(10) Carved objects.
(11) Things decorated with stick prints or potato cuts.
(12) Games.
(13) Decorated boxes.
(14) Embroidered articles.
(15) Batiks.
(16) Papier maché bowls, boxes, etc.
(17) Bound books.
(18) Stencilled articles.
(19) Pictures such as linoleum prints.
(20) Paper picnic sets.

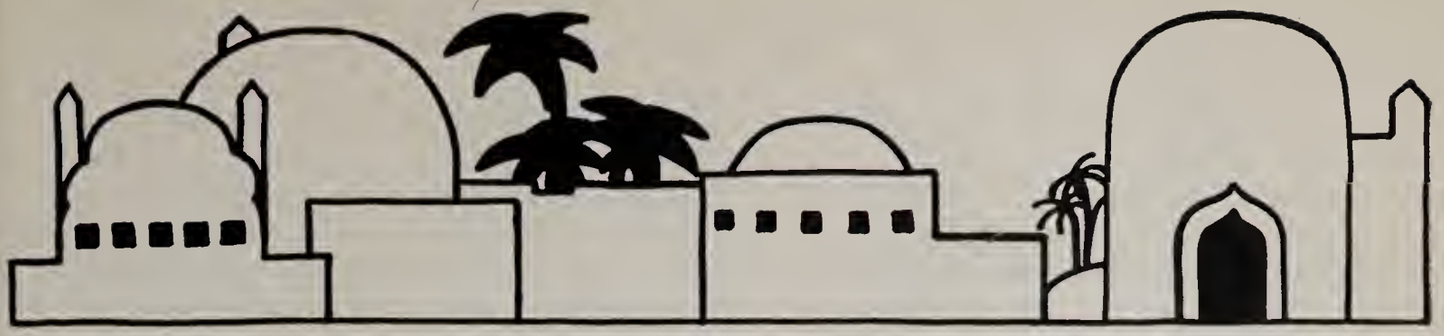
A gift which has been carefully made deserves to be presented as attractively as possible. This does not mean that we need go to the extreme of putting more expense on the outside than on the inside of the parcel, but it does mean that the gift should be kept at its best until it reaches the recipient. A clean, fresh piece of paper folded neatly around the gift and firmly fastened by string or seals is all that is necessary.

(5) Whenever a school party is in the offing, decorations for the room are in demand. We may decorate the windows, blackboards, and lights, and hang festoons from the walls. The effect as a whole should be constantly kept in mind, rather than details.

Begin by planning the general effect. Choose a simple but striking colour scheme which will be in harmony with the colours of the room and the furniture. Now plan to carry these colours evenly around the room. This avoids lop-sided decoration. Many are disappointed when the decorations go up because the room looks crowded and untidy. Schoolrooms frequently have so many things hanging on the walls that additional decorations are out of place. It would be wise to remove from the walls everything which is not part of the decoration. These things can easily be stored away and returned to the walls after the decorations are taken down. With bare walls and clean blackboards we are ready to start.

Festoons are still used to some extent because they create a festive appearance very easily. They may be made of tissue or crepe paper. The latter is better because it is stronger.

Take care that there is a definite plan of arrangement in hanging festoons. A simple and effective way is to have them radiate to the four walls from a central point in the ceiling. Avoid the common fault of draping them hit or



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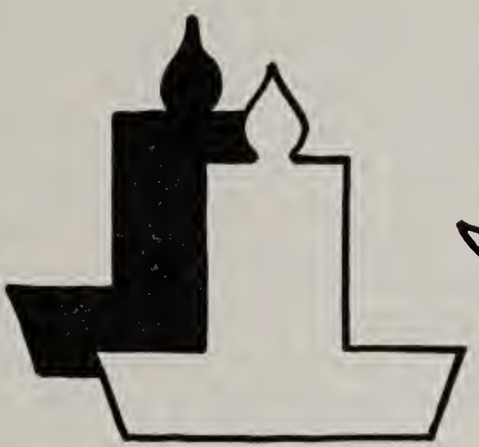

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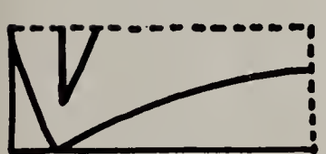

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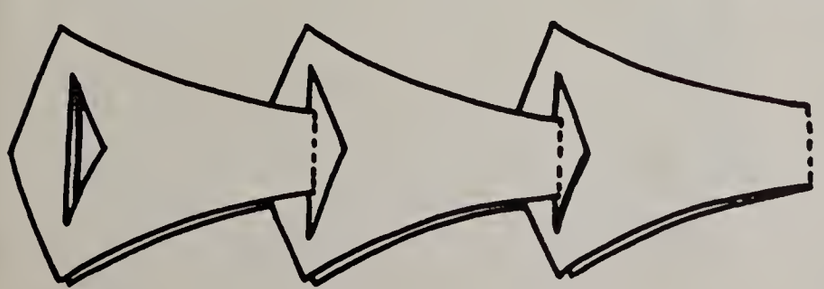

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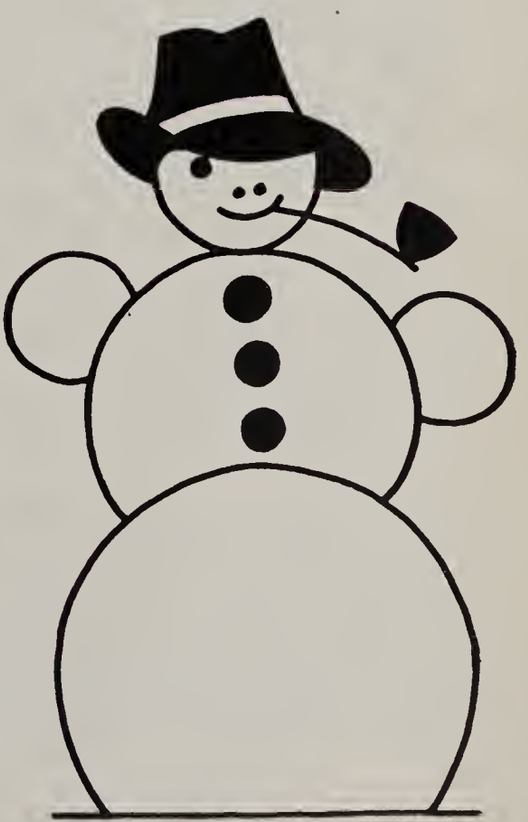

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miss fashion over light fixtures and picture frames.

After hanging for a day or two, these festoons may sag until they are touching people's heads. At their lowest, the paper decorations should be at least three feet above the crowd, higher if possible.

It is well to remember that these decorations are very inflammable so that precautions should be taken to avoid danger.

Windows may be decorated by sticking pictures or designs to the glass. Mucilage or plasticine may be used, the window being washed afterwards. In cold weather, plasticine becomes too hard to stick well.

Some teachers like to paint parts of the glass with an opaque paint. For this purpose, window cleaner or cheap wall paint mixed with water may be used as a base. Poster paint or ground ends of coloured chalk may be added. Poster paint may be used alone but is quite expensive for large surfaces. Window decorations illustrating nursery rhymes and stories of the seasons are frequently done in this way. They are especially popular with the small children.

In painting these illustrations or designs, the brush strokes will remain and give an interesting quality to the work. The artist should make the brush strokes work for him, to help express the form or texture of the object. For example, grass may be painted with many vertical short strokes. A ball should have strokes following the curve of its shape. A flat road should be painted with straight long even strokes.

Particularly effective window decorations are the imitations of stained glass windows. These are described elsewhere.

Blackboard borders are an everyday source of pleasure to the children. Often such a border is the one bright touch of colour in the classroom. A month is long enough to leave one of these borders on the blackboard. That month should precede rather than succeed a holiday, as interest dies in decorations when their occasion is past.

If we are making a border design, a motif should be repeated at equal intervals along the required length. As an alternative, the space might be treated as a frieze with an informal arrangement of parts, giving an effect of "even unevenness".

The width of the decoration will depend on the height of the blackboard. It should not intrude on the space needed for everyday work, nor should it be wider than about one-fifth of the blackboard's height.

Borders may be, (1) cut paper motifs stuck to the blackboard, (2) cut paper motifs on a chalk background, or (3) all chalk. We might use figs. 198, 217, 230, 257, 270, 271, 277 to 280 inclusive, to mention only a few.

Avoid using plasticine to stick the paper on the space allotted because it leaves greasy marks. Paste is just as good and may be soaked off, doing no harm.

Where electric lights are used, large shades or boxes may be constructed from wire, cardboard, tissue paper, crepe paper, cellophane, etc. These may take any fanciful shape to fit in with the rest of the decorations. For example they might become iron lanterns for an English mediaeval setting. Sometimes, though, the whole effect is cheapened by careless light decorations. They must have good design.

(6) Party favours and place cards may be made quite simply from many of the designs illustrated, by adding a stand and the name of the guest. Figs. 196, 205, 206, 226, 227, 247, 264, 268, and 272 would be suitable.

Candy or nut boxes may be made of fairly heavy paper, folded and decorated with any school paints. Paper cups and the little containers for cup cakes now on the market help us over the most serious difficulty—that of making a box strong enough to hold the candy or nuts. Handles of paper or wire may be added, but for very young children it is better to leave them off entirely. See figs. 252-256 inclusive.

Cups may be decorated with simple designs using crayons, transparent water colours or opaque paints. Those paper cups which have been coated with paraffin will not take paint mixed with water.

In the stores we now see attractive paper picnic sets. These contain paper dishes, tablecloth and napkins. The plain paper plates, etc. are extremely cheap and can be decorated very

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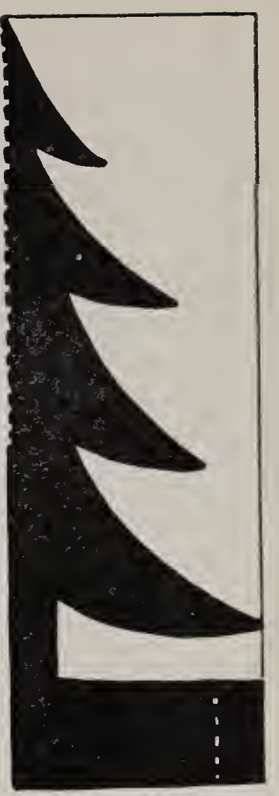

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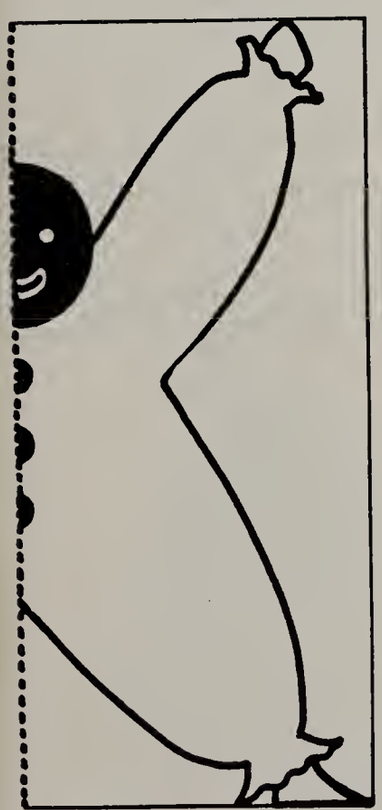

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effectively by children in any grade. Crayons, transparent water colours used thickly, or opaque water colours may be used. One or two coats of white shellac after the paint goes on prevents food moisture from lifting the colours.

Doilies may be cut from a square of tissue or heavier paper by folding in eight triangles. Cut any shapes out of the edges and open out. One of these is shown in fig. 258.

Table centres are quite within the range of a child's capabilities. The three dimensional illustrations with no background can be arranged on a box suitably covered, on a piece of glass or paper, on a doily or on a platter. The clay model of the Babe in the Manger, or of the Eskimo family would be quite suitable and decorative. Many people do not realize that the expensive work of artists and the work of children have a common quality—that of straightforward simplicity.

Invitations may take on any fancy shape and may be made in booklet form with the message on the inside. Figs. 192, 205, 206, 246 and 264 give suggestions for this work.

Lettering looks much better than writing on an invitation. The single stroke Roman alphabet is both suitable and simple. It should be as carefully done as the drawing and painting of the design.

Menus are not often used but are occasionally in demand. They may be made in much the same way as the invitations or they may be placed on a simple stand. A rectangular card with a small design and lettering may be used. Figs. 194, 197, 210, 221, 260, 265, and 268 suggest possible treatments.

Programmes needed for school plays and concerts may be made in booklet form, with a design on the cover and writing inside. This is rather unsatisfactory from the artistic point of view, but it is difficult to improve on the method unless several pupils become adept at freehand lettering. If a mimeograph or hectograph machine is available an outline drawing can be made and the rest is easy. A stencil or linoleum cut can be made from which any number of copies may be obtained, but any fine lettering would have to be put in later.

Posters are needed to advertise coming school events. When not more than four or five of a kind are necessary, they may be made individually. Linoleum cuts or stencils may be used quite successfully when many copies are needed; these processes are described fully elsewhere. Refer to Chapters 6, 14, and 17.

Children get so much pleasure from the making of Christmas tree trimmings that it seems a shame for people to buy so many. Ornaments may be carved, modelled, sewn, pasted, cut, torn or made in many other ways. Since anything which has an amusing shape and strong colour or sparkle is good, children may let their imaginations go. All sorts of strange people and animals will result. Cellophane, tin foil, cotton batting, paper chains, popcorn strings and balls, and colourfully-wrapped gifts will all help to make a very satisfactory day-time tree. Some further suggestions will be found in the Christmas Chapter.

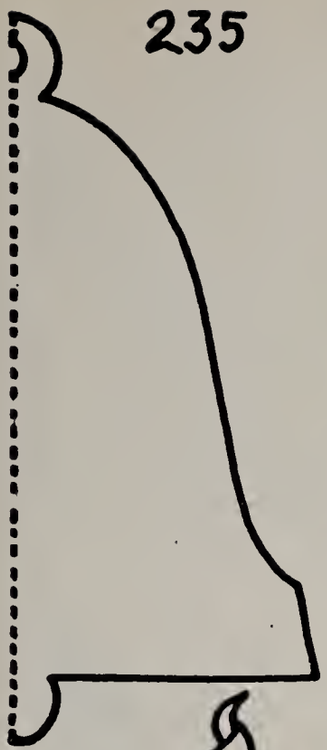
CHAPTER 38.

Thanksgiving Day.

We may approach the topic of Thanksgiving from two angles. First, we may think of it as a harvest festival when the idea of thankfulness is uppermost. Or second, we may study it from the historical viewpoint. Sometimes we may combine the two approaches.

Illustrations of various kinds will show the harvest in the fields, the orchards, and the gardens. Fruit stores and markets are a riot of colour. In the home are to be found topics for illustration such as storing vegetables, preserving fruit, preparing Thanksgiving dinner, and so on.

The conventional turkeys and rooster of figs.



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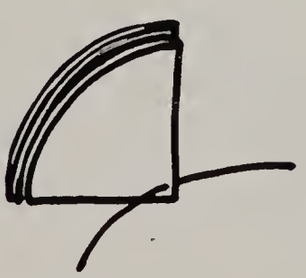

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192, 193 and 194 might decorate cards, blackboards, book covers and posters.

The little squirrel in figs. 195 and 196 was used on a stand-up greeting card. Draw the design on a card about 3 inches by 4 inches. Cut with a knife as shown on the dotted line, fig. 195. Score the card across the centre from the squirrel to the edges only. Fold the top half back and down, leaving the squirrel standing as in fig. 196. This method of making cards may be used with many other designs.

Fig. 197 shows a cornucopia (horn of plenty). This very ancient symbol is usually shown with fruits, vegetables or flowers spilling from it.

The large turkey in fig. 198 is a more detailed drawing than the others and may be adapted to meet many needs.

To bring out the origin of Thanksgiving, we might make a study of colonial life with a view to illustrating the log homes, costumes, daily doings and pleasures of the Pilgrims. We might make a mural showing the first Thanksgiving or the landing of the Pilgrims. Figs. 199 and 200 show the type of costumes worn.

CHAPTER 39.

Hallowe'en.

What better excuse could we ask for a party than Hallowe'en? Though we are unwilling to transgress greatly on school time for the making of decorations and costumes the enthusiasm of the children will carry through the work in spare moments.

The motifs shown lend themselves particularly well to room decoration and other party needs. In the sketches are a number of things which may be used in a variety of ways.

The bat, owl, cats and pumpkins would be effective if strung to make a festoon. In that case they should be made 4 inches or 5 inches high. The pumpkins might be cut from orange construction paper, the other shapes from black. These might be arranged black and orange alternately, in a row along the top of a moulding or the blackboard. Strips of crepe paper twisted a few times, with the cut-outs hanging from them at intervals, would make simpler festoons.

The moon, fig. 204, is easily drawn with compasses. With A as centre the outside arc is drawn. With B as centre and a slightly longer radius the inner arc is drawn.

The ghost in fig. 207 would be effective as a blackboard decoration. If it is too long, shorten it below the waist.

The witch on the broomstick in fig. 211 makes a good window decoration if drawn considerably larger.

The hat shown in figs. 285, 286 and 287 could easily be changed into the real thing for a witch's costume. Instead of putting a round top on the crown, continue the side crown up to a point. The rest of the construction is the same.

A book of stories or pictures could be suitably decorated with any of the motifs given.

Invitations and place cards could be made with designs based on the simpler cats or pumpkins.

Try carving tiny pumpkins from carrots. Make a little hole in the top and insert a bit of carrot leaf for a stem. Queer animals and figures may be made from gumdrops or jelly beans as shown in figs. 226 and 227 in the Christmas suggestions.

Illustrations of poems and stories may be purely imaginative and amusing. With no facts to limit the artist, he has the utmost freedom.

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CHAPTER 40.

Remembrance Day.

It is an abrupt transition from the hilarious nonsense of Hallowe'en to the seriousness of Remembrance Day. All of our efforts to recognize the anniversary of the Armistice should be marked by quiet and simple dignity.

A suitable project for the art class would be the writing or lettering of a poem on a page ornamented with a border or illustration. The border might be abstract in its decoration, or it might employ a motif such as the poppy, a weapon of warfare, or a soldier's helmet.

The accompanying drawings show material which may be useful. The poppy plant (symbol of sleep) shown in figs. 212 and 213 is of the well known Shirley variety which is very similar to the poppy of Flanders.

The olive has long been a symbol of peace, and its flowering branch is pictured in fig. 214. The flowers may be eliminated for the sake of simplicity.

The dove, another symbol of peace, is shown in two designs in figs. 215 and 216.

In fig. 217 is a conventional poppy which may be used in many types of work, including cut paper.

A Remembrance Day illustration is an excellent subject for a stained glass window design. The symbols of peace may be worked into such a design very satisfactorily. Directions for this work are given in Chapter 8.

CHAPTER 41.

Christmas.

The Christmas season brings a bewildering wealth of suggestions for the art class. Not only the Christmas story itself, but the associations clustering about the day, provide a wide range of subjects for expression in almost as wide a range of mediums. Only a few activities can be discussed in this chapter, but in them the children may find a starting point.

Illustrations, of course, stand high in popularity at all times. They may be done in any of the ways described in Chapter 37.

Juniors enjoy collecting pictures, stories and poems. Magazines are full of good material at this time of year. Trimming and mounting the pictures requires an elementary understanding of space filling. Hands should be kept clean and neatness insisted upon.

Modelling in clay or plasticine, and carving from soap or wood are interesting crafts. The manger scene or the shepherds with their flocks would be suitable topics for a group of figures. See "Modelling" and "Carving".

Figs. 218 and 219 suggest how a box picture may be made as described in Chapter 37. Buff paper on the floor of the box represents sandy soil, while blue paper on the sides and top suggests the sky. The eastern city is cut from black paper and pasted at the skyline. Three camels are cut out, pasted on stands, and placed in the foreground.

The making of Christmas cards is a popular activity. A simple cut paper design suitable for Grade I is shown in fig. 220. The candles may be cut from two colours. Children may vary the design by making fancy candlesticks, or by altering the height and arrangement of the candles. The poinsettia design in fig. 221 is intended for paper cutting. This design may also be used as a stencil in the intermediate grades. The stencil method makes it possible to get a number of cards with very little extra work. See "Stencilling". Effective spatter cards are made by using deep blue paper and white poster paint. The design is a paper cut.

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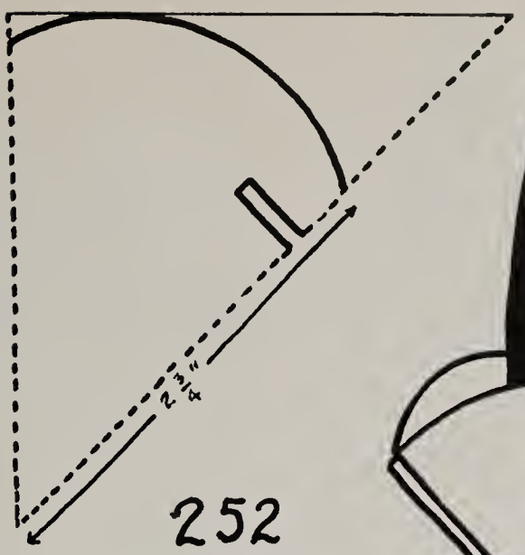

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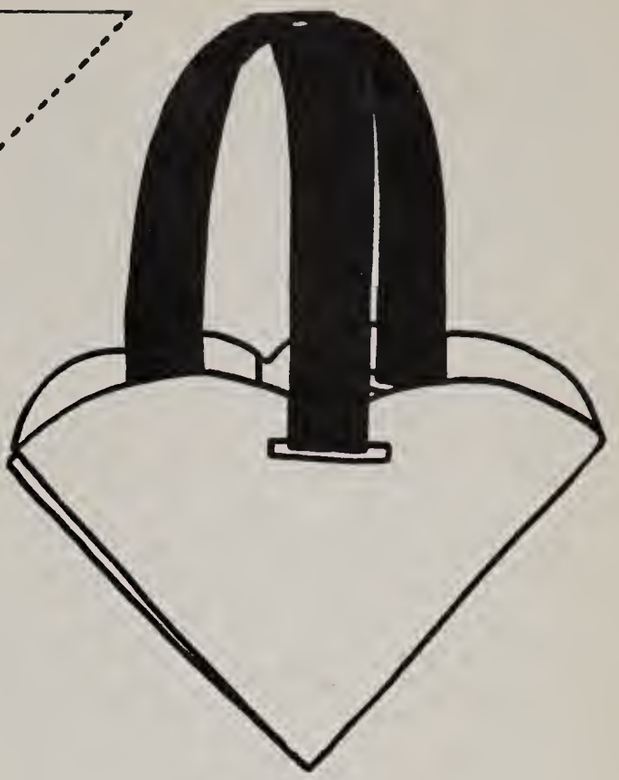

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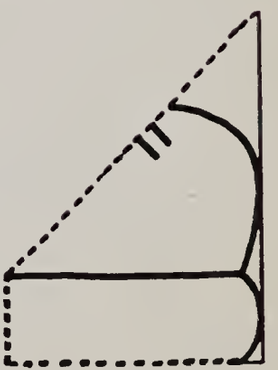

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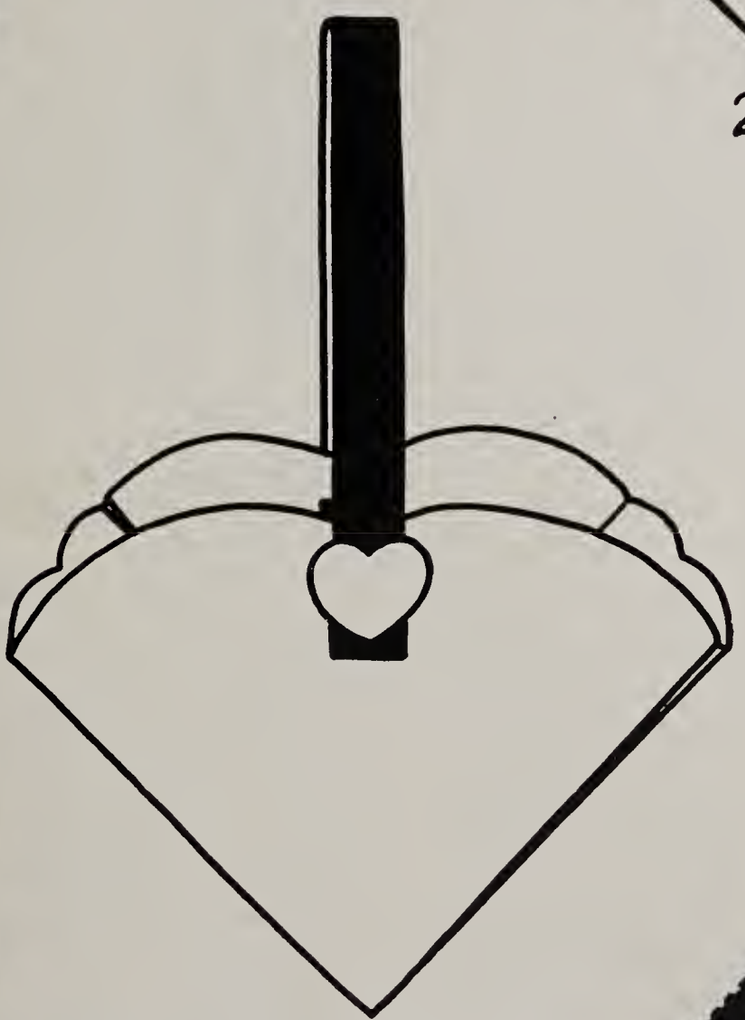

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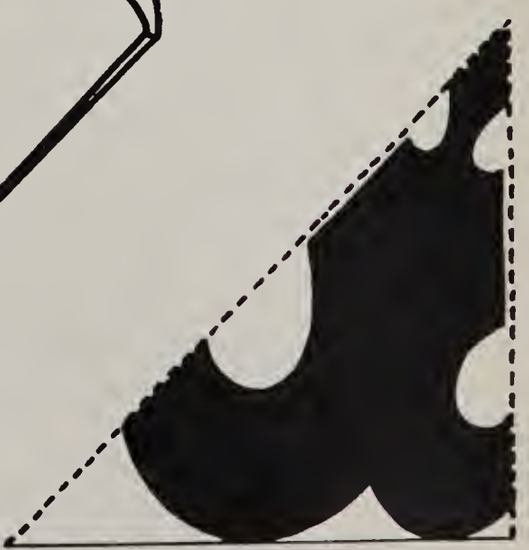

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An illustration is shown under the spatter work heading. Linoleum cuts are unquestionably the best means of card making for seniors. See Chapter 17 for illustrations and description.

Christmas seals are not difficult to make. They may be printed on white or coloured gummed paper from designs cut on scraps of linoleum. These seals should be simple in design. You may have noticed that the best seals for sale in the shops are very simple. The cheap ones are less effective because they are overcrowded with detail.

Gift tags may be made by the same method used for the seals, but they should be printed on heavier paper and accurately trimmed.

Wrapping paper requires an all-over pattern which may be produced by stencil, potato cut, or linoleum cut. The poinsettia in fig. 221 may be repeated nicely. Try making it more graceful by letting the stem bend and by varying the position and the size of the leaves.

Junior children may make paper chain decorations. A simple unpasted one is shown in figs. 222 and 223. In fig. 222 paper is folded in quarters, dotted lines showing the folds. Cut on solid lines. Open out and slip one end of one piece through the holes in the two ends of the preceding piece. Fig. 223 shows the finished chain. The shape of the piece may be varied.

A simple cut-out border is shown in fig. 224. Take a strip of paper, say 4 inches wide, fold across, back and forth at intervals of 2 inches. The result should be like a pleated lampshade or an accordion. The dotted lines indicate folds. Cut on the solid lines and open out. The tree shape may be varied by cutting branches, or by substituting a different pattern for the tree in the cutting. This cut-out may be used as a blackboard border or, if narrow enough, for a booklet decoration.

The snow man in fig. 225 might decorate a card, a poster, the blackboard, the windows or the Christmas tree. It may easily be drawn with the aid of compasses.

The little gum drop or jelly bean creatures shown in figs. 226 and 227 are easy to make and are favourites with children. Pine cones, peanuts, potatoes, and apples may be used to make similar figures. The legs, arms, and neck are made from tooth picks, pliable wire, or better still, pipe cleaners. The resulting little fellows are good tree ornaments or party favours.

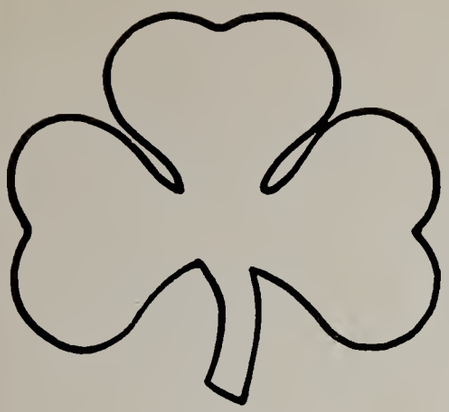
Fig. 228 shows the finished appearance of a stand-up Christmas tree which may easily be cut from construction paper. Two pieces of paper, folded double lengthwise, are required. The folds go down the middle of the tree. Cut both as shown in fig. 229. There are three ways in which the tree may be put together: (1) Lay one piece of cut paper on top of the other, edges even, then sew them together down the fold. Open out. (2) Slit one part of the tree half way down from the top and the other part half way up from the bottom as shown in fig. 229. Then fit them together by slipping the cut in one into the cut in the other. This will bring them to the position shown in fig. 228. (3) Slit one part of the tree one-quarter of the way down from the top and one-quarter of the way up from the bottom. The second piece is cut half its length, in the middle. Fit together, one into the cut of the other. A circular base may be added, if desired, by cutting a strip of paper as wide as the stand is high and long enough to go around it. Bend the ends of the tree stand on the dotted lines and paste on the strip. A gummed or cut-out star may be put on the top.

The deer in fig. 230 will be useful in a variety of ways for cards, blackboard decoration or in illustrations.

Fig. 232 shows a clown which may be cut from a double piece of paper. A triangular cap is cut and stuck on at a rakish angle. A neck frill is made by cutting the shape shown in fig. 231 from a double piece of paper, and by fringing the edges. Stick it on the clown, leaving the fringe free. With flags or balloons waving from his hands he may be useful as a blackboard or window decoration. For variety, stand him on his head and dispense with the balloons.

The penguin in fig. 233 is a fairly new motif suitable for many uses. It would make a good stuffed toy, or a decoration for a booklet or the blackboard.

Balls or balloons with painted faces and wide cellophane wings tied at the bottom make amusing tree decorations.



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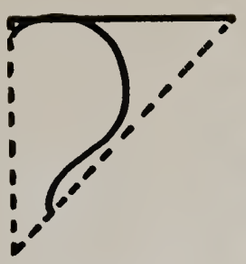

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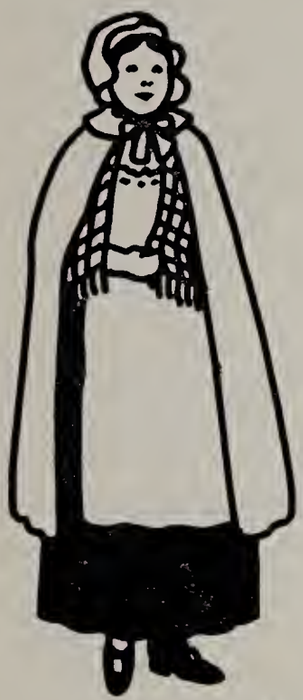

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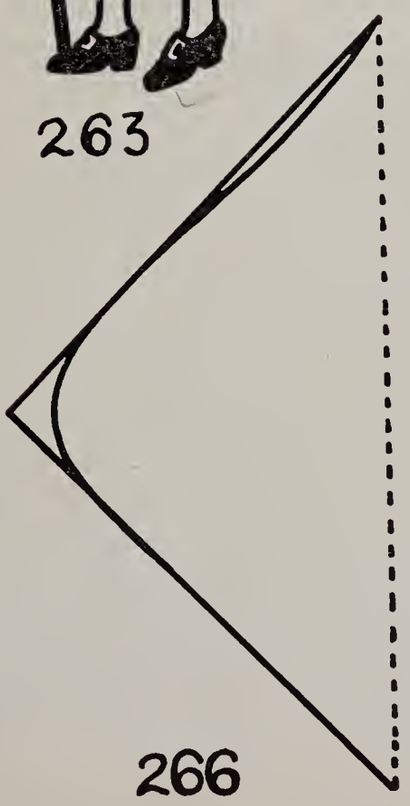

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Fig. 234 suggests an idea for a window decoration to be cut out of tissue paper. The measurements are in the proportion of 3 wide to 4 high. The design may be drawn directly on the window with opaque paints, or it may suggest a card design just as it is.

A number of the drawings will suggest toys made of paper, stuffed cloth, papier maché, wood or metal.

Fig. 235 shows how to cut a bell from folded paper. Several of these shapes may be cut from blotting paper and put together with a paper fastener. This gift is simple enough for Grade I to make.

A tree suitable either for Christmas decorating or for the sand table is shown in fig. 236. It is made of a lollypop stick or meat skewer stuck into an empty spool. Use from one to three strips of green crepe paper for the treetop. These strips should be 6 inches long and about 2 inches wide for the tree in the diagram. Fringe one edge of each strip quite deeply. Then gather the other edge of each and fasten around the stick with a little string or a rubber band, putting on the bottom one first.

The Christmas card design in fig. 237 is simple enough for primary children. Use a single or double card of any size. To make the frame, fold a contrasting and slightly smaller piece of paper down the middle, hold by the fold and cut about ¼ inch in from the other three edges. The pudding is cut or torn from brown paper and topped off with some bits of green and red for holly. The dish is cut from the double fold.

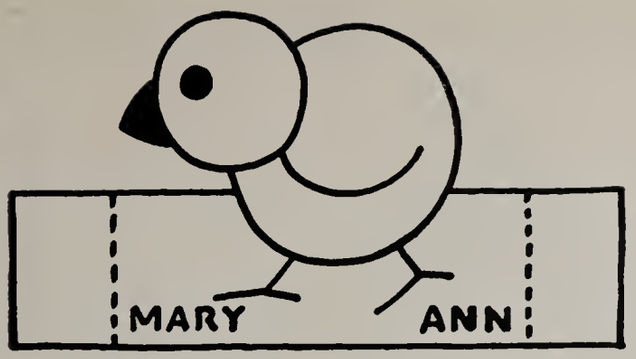
Fig. 238 illustrates a slightly more difficult card which will be made with pleasure by pupils senior to Grade II. A piece of green or red construction paper is folded so that ½ inch of the back shows beyond the right edge of the front. The children need not draw anything for the Santa Claus except a light curved line for his cap and another across the moustache. These lines merely settle the position. With a brush dipped in white poster paint pupils draw the design, filling in parts as they wish. The beard is done with a rather dry brush to give a furry edge. Appropriate wording is placed down the edge of the card with pencil, before being drawn with the brush and white paint. Some small decoration or message may also be used on the inside. If a ball-pointed pen is used for the lettering it will be necessary to use the poster paint quite thin and to keep wiping the nib. This card may suggest a whole new set of ideas to the children.

The other diagrams on the page illustrate simple tree decorations which primary children may make. The candle in fig. 239 is of bright crepe paper pasted around a clothes pin. A little yellow paper is pasted at the top, preferably with the other colour overlapping it, and the end is twisted. A circle of heavy paper or cardboard about 3 inches in diameter is put over the other end of the pin and the whole pushed on a twig of the tree.

To make strings of Christmas bells cut half circles of coloured plain or metallic paper about 3 inches in diameter. Form cones and paste the edges together. If these are strung from 6 inches to 12 inches apart they make very good garlands. Figs. 240 and 241 show their construction.

Tissue paper or cellophane balls are made from eight or more circles cut 3 inches to 6 inches in diameter. Fold each separately as shown by the dotted lines in fig. 242. String these together by the centres as in fig. 243. Tie the thread, leaving 1 foot or more hanging free for attaching the decoration to the tree. The ball may be left as it is or crushed a little in the hands.

For the clothes pin angel or fairy in fig. 244 use a strip of tissue, crepe paper or cellophane about 8 inches long and 4 inches wide. Gather this strip around the neck of the clothes pin leaving a little frill at the tip. Tie or fasten with a rubber band. Make a bow of another piece of paper 12 inches by 3 inches. Tie tight in the middle and fasten around the waist of the clothes pin. Leave thread hanging as a means of fastening the figure to the tree, or clip it on.



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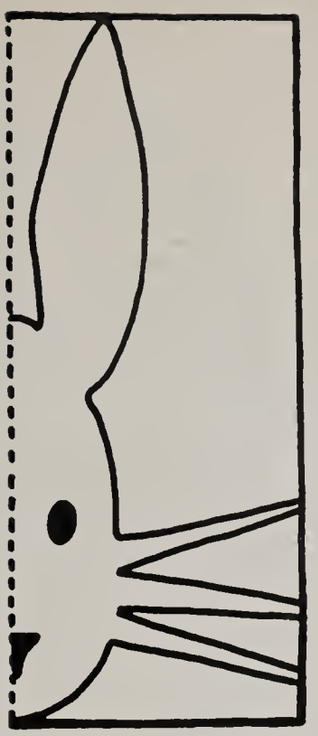

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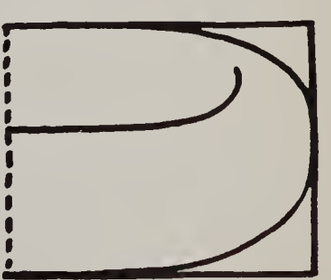

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CHAPTER 42.

St. Valentine's Day.

The appearance of the Valentine box in the classroom is an exciting signal for activity in both junior and senior grades. Unhappy the class where ready-made Valentines are the rule! The delight of the day is found when boys and girls fashion their own tokens. The suggestions given in this chapter may add freshness to some of their designs.

Construction paper, paste, and scissors are required for most of the projects, while tissue and crepe paper, and lace paper doilies are certain to prove useful.

Must Valentines be invariably red? Why not encourage the children to use other colours, at least in combination with red? It should not be forgotten, too, that there are many reds from which to make a choice.

A well-proportioned heart may be made by folding double a square piece of paper. It will be noticed that the hearts used in the drawings vary greatly in proportion; for instance, the dog's ears in fig. 247 are very long and narrow.

For the youngest children the dart in fig. 245 slipped through two slits in a simple large heart is quite an accomplishment. Years have not dulled the pleasure taken in this favourite. If preferred, the tail of the dart may be fringed with scissors.

Bookmarks for Father are simply made by the youngest pupils by stringing hearts on a ribbon or paper strip. The ribbon passes through two horizontal slits cut in each heart. The hearts may be graduated in size, with the largest at the top and the smallest at the bottom.

A needlebook or penwiper may be made from heavy paper 4 inches by 8 inches, folded double and cut heart-shaped as in fig. 246. Ornament with a quaint little figure of hearts, and sew to the fold some pieces of flannel or felt cut to fit. A wire stitch from the back of an old magazine may be used instead of the sewing.

Pupils in the intermediate grades will enjoy inventing amusing people, animals, or birds made from hearts varying in size and colour. Figs. 247 and 248 show examples of what is meant.

A card may be decorated with a tree having hearts for fruit as in fig. 249. Or a vase containing strange heart-shaped flowers may make its appearance as in fig. 250, for which the common garden plant, the bleeding-heart, was the inspiration.

The large heart with doves perched above in fig. 251, may be backed with a paper doily. It is reminiscent of the sweet sentiment of the old-fashioned Valentine.

A three-cornered Valentine basket may be made from a piece of construction paper, 6 inches square. Fold in four squares, then fold again to make eight triangles. Cut as in fig. 252, noting that the folded edges are indicated by dotted lines. Open out. You now have four hearts with points together and slits near the top centres. Between two hearts (where there is no slit) make one cut to the centre. Lap the hearts on either side of the cut over each other. You now have the three-sided basket. Cut three narrow strips of paper about 8 inches long. Double them. Slip one end of each through a slit and fasten all the ends at the top with a paper fastener, fig. 253.

This same construction, using a piece of paper about 12 inches square, would make a hat. Omit the slits and handles. Turn upside down and make long streamers of tissue paper curled with the scissors. Vary the length of the streamers. A pompom may be made by taking a long strip of tissue paper, folding lengthwise and fringing along the open side nearly to the fold. Curl the ends with the scissors, roll up and stick on the hat in any desired position. Paper fasteners, glue or a large safety pin should hold it in place.

A four-sided basket is shown in fig. 256. Take a piece of construction paper, 6 inches by 8 inches. Fold in four rectangles. Cut to within an inch of the bottom as shown in fig. 254. Fold the top left corners down to the position shown in fig. 255 and cut as shown. Open out. Overlap at the two sides to form the basket as in fig. 256. Two slits are made in the sides


CLEAN UP

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KINGBIRD
MEADOW LARK

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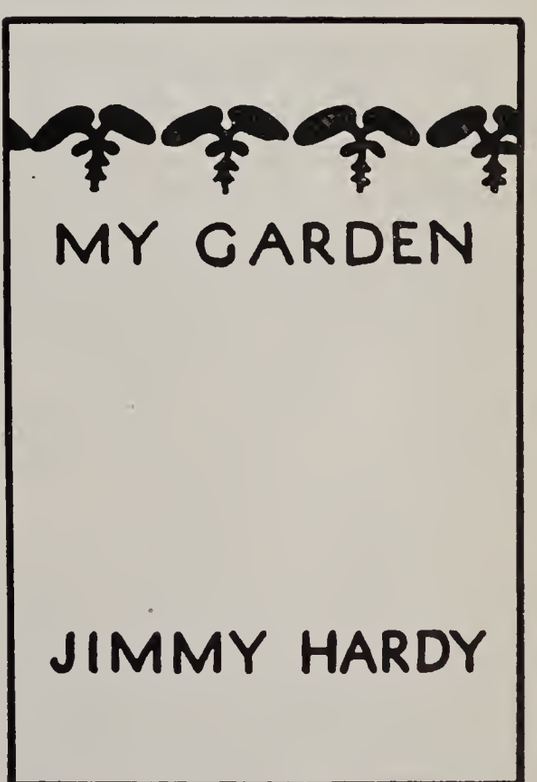
MY GARDEN
JIMMY HARDY

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near the top centre. The long narrow handle strip, about 10 inches long, is thrust through the lower slits to the inside and back up through the top one to the outside. This handle, which is quite firm without pasting, is further secured by hearts stuck across the join.

A border design is shown in fig. 257. Take a long strip of crepe or tissue paper about 4 inches wide. Fold back and forth every 2 inches until the piece is accordion pleated. Then cut as indicated by the solid lines.

A Valentine doily may be made of red tissue folded in 8 triangles and cut somewhat as shown in fig. 258. Infinite variation may be secured in cutting these lacy patterns, and the children will enjoy trying their own ideas. They might use newspaper first, then tissue. If food is to be placed on the doilies, white paper should be used.

The Valentine post box is a problem. Usually it is too lavishly decorated. It will appear effective if made to resemble a real city post box or rural mail box with some Valentine decoration added.

If the number of children in the class is not great, a Valentine hunt may be feasible. Allow the children to hide their cards around the room. At a signal all begin the search.

CHAPTER 43.

St. Patrick's Day.

For those who are interested in St. Patrick's Day a few of the commonly used motifs are suggested. These are intended to symbolize the character of Ireland and the Irish.

The shamrock is the most familiar emblem, but how often it is badly drawn by the children! Try cutting one from a square piece of paper any size, folded in 8 triangles. Cut as shown in fig. 259. Open out and trim down one leaf of the shamrock to make a stem. Fig. 260 is the result.

A simplified version of the well known Irish harp is illustrated in fig. 261. If a still simpler design is needed, eliminate the figure, substituting a curved bar up the side and another across the top. The curves might follow the general line of the figure and of the wing.

The Irish have had no national costume since the days before Elizabeth. Now there is little to distinguish their dress from our own. The long cape with attached hood as shown in fig. 262 is sometimes seen and the women frequently wear bright woollen shawls around their shoulders or over their heads. On the stage when Ireland is to be represented, the eighteenth century man's costume, somewhat simplified, is used, fig. 263.

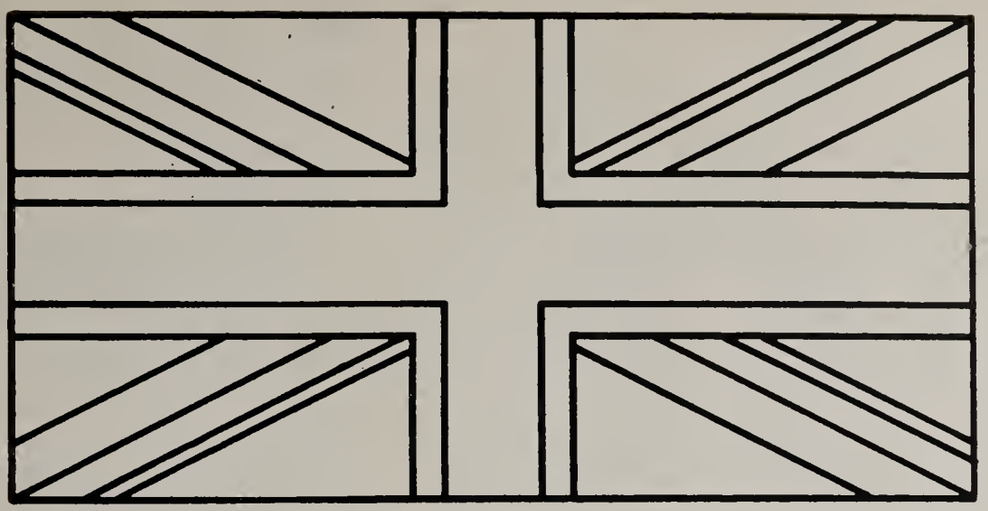
The hat shown in fig. 264 may be used as an invitation, a menu, or a greeting card.

CHAPTER 44.

Easter.

If we wish to emphasize the religious significance of Easter we will find that illustrations, particularly murals, and stained glass window designs suit our purpose best. They lend themselves readily to the treatment of serious subjects. Directions for each are given in previous chapters. Many secular schools place the emphasis on the spring theme. The usual rabbits and chicks may pall on adults, but they never fail to delight young children.

Most of the suggestions given involve paper cutting although a number of other mediums would do. Fig. 265 shows a paper cut daffodil which might be useful in room decoration, book-



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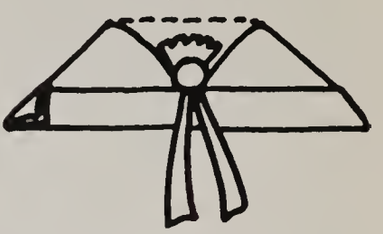

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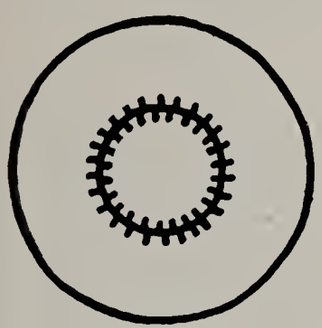

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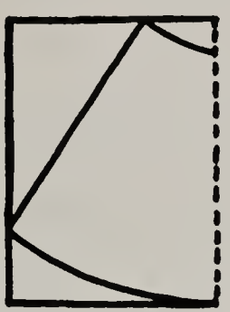

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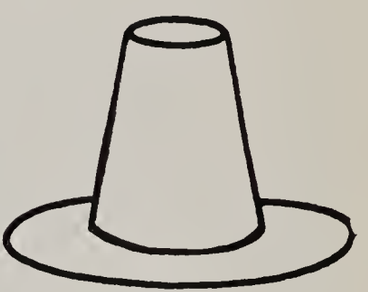

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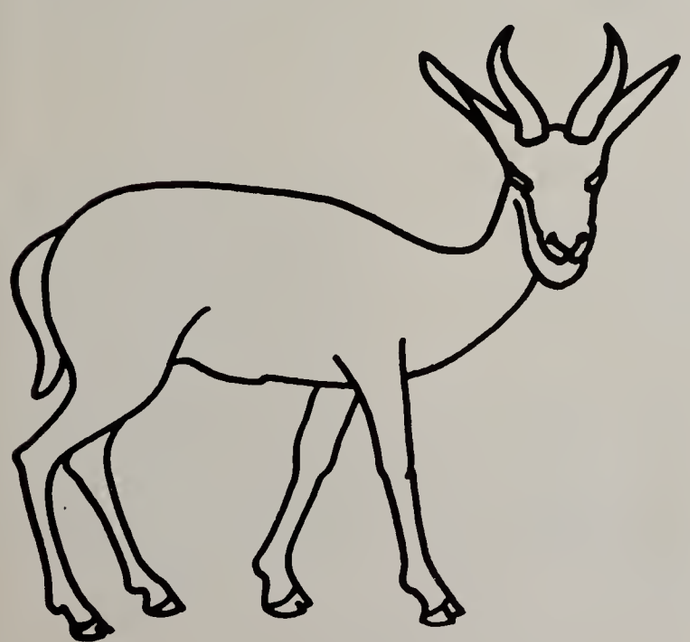

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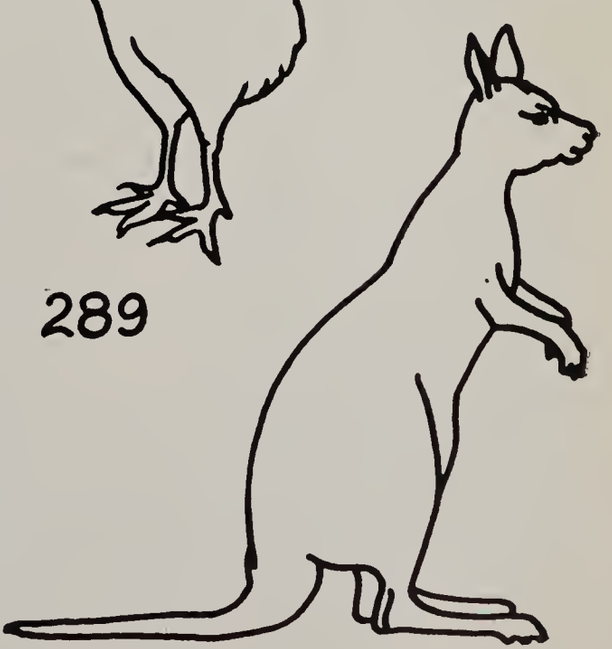

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let decoration, or for repeated use over a surface. A paper cut picture of a bowl of flowers may be made by using the daffodil motif and a similar tulip motif. Long thin leaves may be added, and the flowers arranged in the cut-out bowl on a mount, before pasting.

A square of white paper, folded diagonally and cut as shown in fig. 266 makes a calla lily. The folding and cutting may be eliminated for that matter, using only the paper square. The top corner is curled with the scissors. Roll the paper as in fig. 267, insert a long narrow yellow strip in the middle, and bind the bottom corner in place with wire. The wire stem may be wound with green tissue or crepe paper. Leaves may be made by simply winding a wider strip of green paper part way up the stem, leaving several inches loose. Trim the ends to a tip. Stiffer leaves may be made by making a narrow pleat of paper down the centre, slipping in a piece of wire, and pasting.

A very simple design for a young chick is shown on a child's place card in fig. 268. The same design may find a place in a border design or upon an Easter card. Circles may also be used to draw ducks, rabbits, and other creatures, if appropriate details, such as beaks, feet, tails, or ears are added.

The bunny cut-out in fig. 269 is easy enough for Grades II and III. It was originally used in a paper frame over a dark background for a greeting card. Simply fold double a piece of paper about 3½ inches wide by 4 inches high. Cut on the solid lines. Pinch the paper between the fingers in the proper place for the eyes and cut out semi-circles.

For the lamb border in fig. 270 take a strip of paper 3 inches wide, fold back and forth every inch to make the accordion folds. If it is desired to change the width of the border it is only necessary to keep the 3 to 1 proportion. When the paper is folded cut on solid lines.

Fig. 271 shows a frolicsome little lamb—the very essence of spring. Cut-outs were originally placed 10 inches or 12 inches apart for a blackboard border. A few simple landscape lines in chalk tied the motifs together.

What youngster would not fall in love with the amusing little duckling in fig. 272? It was used as a border motif, but would be just as useful on greeting or place cards, etc.

The baby birds in fig. 273 involve the use of circles again with the addition of bills and possibly wings. The cutting of the nest is shown in fig. 274. This motif was intended for blackboard decoration.

Primary children will enjoy reading stories and verses written on the backs of large paper Easter eggs. The eggs may be collected in a blackboard basket. Decorate the front of each egg with crayon designs. Weave a rectangular basket of paper strips, spread paste around the bottom and sides, and stick it to the blackboard. Put on a handle. Then slip the eggs into the basket.

CHAPTER 45.

Arbour Day.

Where a day is set aside to be devoted to tree and garden planting, or to a spring clean up, some preparation will help to arouse enthusiasm. Posters emphasizing the desirability of cleaning up, repairing, and painting, are stimulating. Fig. 275 illustrates one. Help in the planning and making of posters will be found in Chapter 6.

Birds and birdhouses might receive the attention of part of the class. The birds and the paper cut bird-house shown in fig. 276 will prove useful on booklets and posters.

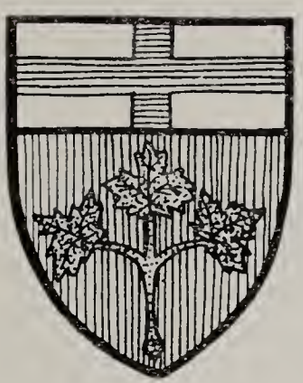
Paper cut-outs of trees of various kinds, such as those in figs. 277-280 inclusive, are not only attractive for decorative purposes, but will help young children to recognize the shapes. A book of such cut-outs might be made by Grades I and II.

292 P. E. I.

293 N.S.

294 N.B.

295 P.Q.



296 ONT.

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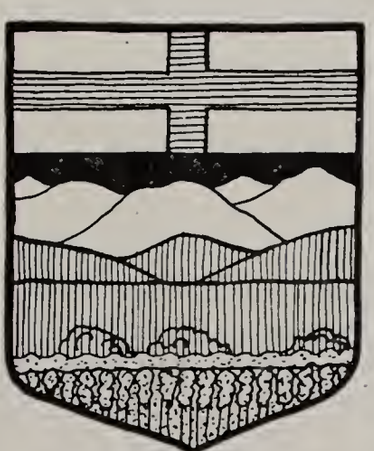


299 ALTA.

300 B.C.

If some of the children are to keep a record of progress in the garden, a book will be needed. It is well to make and decorate it beforehand. Fig. 281 shows a seedling border used as decoration for such a book.

Gardens have to be planned. The value of a drawing done to scale is readily apparent to the older children. The planting of ornamental trees, shrubs, and flowers should also be carefully plotted on a plan of the school grounds.

CHAPTER 46.

Empire Day.

Empire Day will be the more memorable if the children express some of their patriotic pride with the aid of pencil, brush or scissors. Every effort should be made to keep all activities within the comprehension of the class.

To make the little ones familiar with our flag we may place flag seals on their exercises, or let them do their work in a special booklet, the cover of which is decorated with a Union Jack. Slightly older children will be interested in collecting flags of parts of the Empire.

The proper drawing of the Union Jack is quite an undertaking, but can be attempted as soon as the children are able to handle measurements on their rulers. Fig. 282 shows the correct drawing. The Jack is twice as long as wide. All widths of parts are given as fractions of the width of the flag from top to bottom. The large red cross of St. George is 1/5 of the flag's width. Its white borders and the diagonal red cross of St. Patrick are 1/15. The narrow white border of the latter is 1/30. The broad white diagonal cross is that of St. Andrew and is 1/10 of the width. The broad white of St. Andrew's cross is on top in the two quarters of the hoist (next to the pole), while it is on the bottom in the two quarters of the the fly (loose end). Always take care to have the flag right side up. A drawing made 3¾ inches in width would work out conveniently when using rulers graduated in eighths. Then the narrowest white border would be ⅛ inch in width.

In the senior grades, study of the Empire brings us naturally to the study of flags, coats of arms, emblems, customs of the people, maps, etc. Paper cutting, drawing, and painting of decorative panels, posters, and designs using some of these motifs, are suggested as suitable activities.

Making head-dresses representative of various parts of the Empire will delight the children, and the results will provide costuming for simple classroom plays or exercises. The construction of two hats is illustrated. Figs. 283 and 284 show how to make a Scotch bonnet from paper. As the folds are those long used by children in making soldiers' hats, few details seem necessary.

Fig. 285 shows how to cut from cardboard the top and the brim for a Welsh hat. Fig. 286 shows how to cut the side crown. Tabs are shown around the inside of the brim and outside of the top. Fold these up for the brim, and paste inside the side crown. Fold them down on the top piece, and paste inside the upper edge of the side crown. Fig. 287 shows the finished result.

A salt and flour map of the world may be made on heavy cardboard or wood. Colour parts of the Empire with water colours. While the mixture is still soft, stick in tiny flags which have been bought or drawn.

A large class may draw a map of the British Isles in the centre of a large card. Draw radiating lines from it leading to emblems, coats of arms or flags. The emblems given in figs. 288-291 inclusive may be used in this way. Fig. 288 is our own beaver, of course; fig. 289 the kiwi of New Zealand; fig. 290, the springbok of South Africa; and fig. 291, the kangaroo of Australia.

Coats of arms of the provinces or of other parts of the Empire may be made of cut paper and pasted on cardboard, or drawn on cards to be used in oral presentations.

The provincial coats of arms are all given in figs. 292 to 300 inclusive. Some provinces have the right to use a motto or other devices, as well as the coat of arms, but these complications have been omitted. An effort has been made to show the position of the colours on each coat of arms. The parts in solid black show blue, the dotted parts gold, horizontal lines red, vertical lines green, and parts left white silver.

Lettered poems with borders involving historic symbols would give children a chance to try their hands at this type of design.

CHAPTER 47.

Dominion Day.

In the the past we have been so concerned about cramming for examinations in the latter part of June each year that Dominion Day has not received the attention which it deserves. As it marks Canada's national birthday, the children should spend some of their time studying its origin and significance.

On rereading the Chapter on Empire Day, the teacher will find a number of suggestions which are equally suitable for Dominion Day. The pupils will enjoy those activities not previously attempted. The Union Jack will again be a favourite in decorative work. The Dominion coat of arms is quite complicated but it is surprising how many older children will attempt it of their own accord if they have some particular purpose in doing so. They might make a class book cover or a wall plaque.

The provincial coats of arms given in figs. 292 to 300 inclusive are again useful. We may employ Canadian emblems such as the maple leaf and the beaver in making designs. Five provinces have adopted floral emblems which may be conventionalized and used in design. The floral emblems are: (1) the Trailing Arbutus for Nova Scotia, (2) the Blue Violet for New Brunswick, (3) the Trillium for Ontario, (4) the Wood Anemone for Manitoba, and (5) the Wild Rose for Alberta. Salt and flour maps may be made and decorated in various ways with these emblems.

One might do a great deal to interest the children in the various types of new Canadians. National costumes of the chief groups might be worn by the children themselves in a pageant, or shown on puppets, on ordinary dolls, or in pictures. On a large world map made on wallboard, one might indicate the countries from which these new Canadians have come and the places where they have settled. Removable pins and strings or ribbons are used on these maps and may be decorated with flags, costumes, or merely labels. Carved, modelled, or paper cut objects will add to the interest of the project.

The Indian and Eskimo inhabitants of Canada should be given their share of attention in this study of national groups.

The senior children may finish off their year's study of Canada's growth by making pictographs of such things as relative amounts of products exported by Canada, or relative density of population in various parts. Suppose we decided to do the latter. First we would have to select a picture as a symbol for population. A very simple silhouette drawing of a man would do very well. Then we must assign a definite quantitative meaning to the symbol. We might let it represent 10,000 people. To represent a city of 20,000 people we would draw the symbol twice and to represent one of 50,000 we would draw it five times.

A Confederation booklet containing pictures of local places, means of transportation, and costumes through the years along with stories or articles, is well worth preparing. In making its cover, the pupils will have an excellent opportunity to attempt a design involving Canadian emblems.

PART IV.

ADDITIONAL SUGGESTIONS FOR GRADES I, II AND III.

CHAPTER 48.

BECAUSE it is sometimes difficult to find activities in handwork simple enough for children in primary and junior grades, the following pages have been added to supplement suggestions made in earlier chapters. The activities suggested are presented in their simplest forms, but it will be found that many of them are capable of variation and elaboration. Even senior pupils will enjoy working out adaptations at their own levels of skill. Results in all grades will be limited only by the creative ability of the children themselves.

Children like to deck themselves with all manner of beads, pins, bracelets and belts; and the making of these gives opportunity for creative development.

Fig. 301 shows a simple necklace made of squares of light-weight cardboard—such as that from cereal boxes—decorated with crayon patterns, and strung on yarn or ribbon. Circles, triangles, and other shapes may be used instead of squares, or two shapes may be alternated.

The necklace, part of which is illustrated in Fig. 303, looks difficult, but is quite easily made. Use a long, folded strip of tissue paper, cellophane, or glittering Christmas ribbon (unfolded). Fig. 302 shows the strip, about one inch wide, run with yarn along one edge. Pull the yarn, working the strip into full gathers. Then, holding one end of yarn and material firmly, twist the other end until the strip forms a spiral. Fasten the ends securely together.

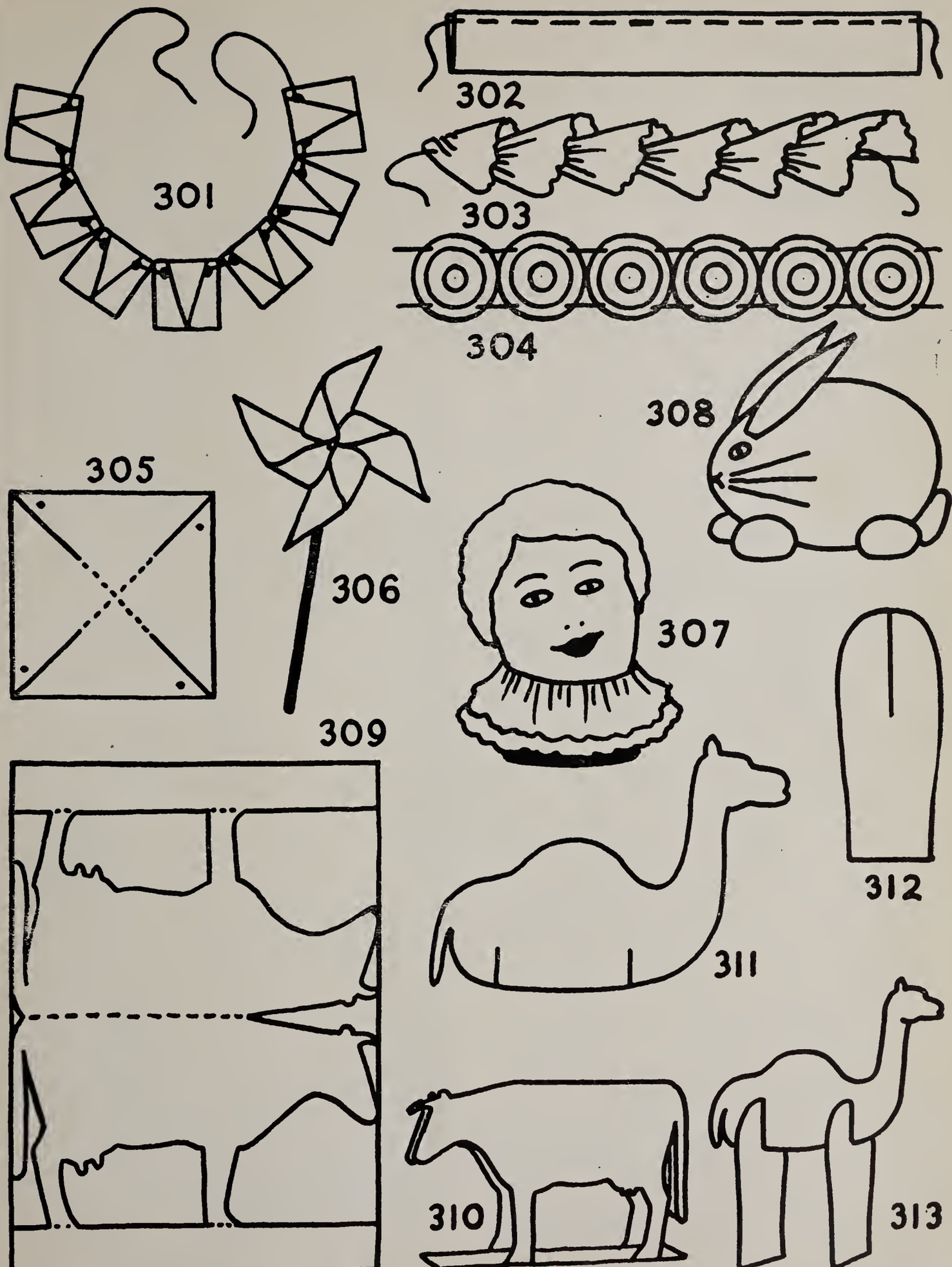
In Fig. 304, milk-bottle caps or other cardboard shapes are decorated with colourful patterns in poster paint or crayon, and are then strung on two strong cords. Tie the belt thus formed around the waist.

The windmill in Fig. 306 is a time-honoured toy that never loses its appeal. A five to eight inch square of any light-weight paper is folded diagonally, and cut along the folds part of the way, as shown in Fig. 305. A pin or small nail is inserted through every other corner as marked, through the middle, and well into a twig or strip of wood for a handle. The windmill is held so that the breeze may catch it.

Egg shells may be made into amusing and unusual decorations for the Christmas tree or the table, if children will take a little care in handling them. At home the child should prick one hole, about half an inch across, in one end of an egg, and another hole, a tiny one this time, in the other end. By blowing into the small hole, he will force the contents out of the other. Cover the holes with adhesive tape or paper. The rabbit in Fig. 308 is a white egg shell with little balls of cotton batting for feet and tail, cut paper ears and whiskers, and painted nose. Another egg shell novelty is shown in Fig. 307, with painted features, cotton wig, and frills of tissue paper or cloth. The head sits loosely in a stand made of a cylinder of firm paper.

Since stand-up animals have many uses in school activities, two simple types are shown here. The cut-out pattern for the cow in Fig. 310 is illustrated in Fig. 309. Fold light cardboard double, and cut as indicated in half the pattern. Then fold the two stands inward and paste one over the other. If the desired animal shape does not lend itself to folding along the top, it is a simple matter to use a hinge of paper or cloth on the inside, or merely to paste the top parts of the two shapes flat together.

For the animal shown in Fig. 313 it is best to use thick material which is easy to cut, such as single-sided corrugated cardboard. Fig. 311 shows the body of the camel with two short slits for the leg pieces. Two pieces like Fig. 312 are needed, with slits as shown. In both the body and leg pieces it is best to make the slit openings the same width as the thickness of the cardboard. If light cardboard or construction paper is used, it will be found that the legs will stay in place better if they are cut on the double fold and not opened out all of the way. This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makes it unnecessary to trim out very narrow strips from the slits. The children may paint features on the animals before the parts are assembled.

Pop-up greeting cards add variety to an old activity, and Fig. 314 shows a very simple way of making them. The card is merely a folded sheet of paper, on the front of which is placed the message of greeting. The clown head may be cut on the double fold, with the hat added separately. The children will think of many amusing designs to use in the same way. For the hinge a strip of paper is folded into a rectangle with an overlap for pasting, as in Fig. 315. The clown is pasted on the front, and then the left end and back are pasted into the fold of the card.

School parties are much more fun when there are fantastic hats for all to wear, and these make excellent problems in design. Fig. 316 shows a poke brim—a shape often useful in school plays. Made of light cardboard, it has, in this case, been decorated with a scalloped edge. It may be tiny to sit on top of the head, or large like a sunbonnet brim. The inner edge may be strengthened with a strip of paper or cloth. Strings of cloth, cord, or ribbon are added as ties.

Crepe paper is the best material for the hat shown in Fig. 317. The strip of paper used should be about one foot wide, and long enough to go around the head. Paste the ends together, run a drawstring in the top, and add a decorative strip of fringe or cut-out pattern at the bottom. Finish the top with a bundle of streamers, long or short, tied with the drawstring.

Fig. 318 shows one small boy's version of a hat. He used a large paper bag, trimmed away the sides to fit as shown, and added a peak in a contrasting colour.

The lively cat in Fig. 321 is a favourite with young children. The head is cut on the double fold as in Fig. 319, and painted or pasted features are added as desired. The two leg pieces are cut on the double fold, as shown in Fig. 320. The body, tail, and neck are made as described on Page 78 for the jack-in-the-box. The same springy construction may be used in making the bodies of other animals or figures, or the bodies may be of ordinary cardboard with springy legs and arms attached.

Games may teach as well as amuse, and children will get most pleasure and profit out of those that they make for themselves. Figs. 322-324 show how a game may be made that will be fun, and good for number practice at the same time. The fence, Fig. 324, is a piece of corrugated cardboard with a thin strip of wood tacked along the back. Any simple figures, such as those shown in Figs. 322 and 323, may be drawn on firm paper or cardboard and cut out. Short strips of wood are tacked across the front near the bottom. To play the game, tack the fence upright on a ledge, and place the figures on the wooden strip at the back. Try to knock the figures off with little balls or pebbles.

Fig. 325 is a jig-saw puzzle drawn on thin cardboard. Any well-filled picture that a child draws may be cut as shown by the fine lines. It is important to make the pieces quite different in shape, to avoid tiny pieces and projections, and to include parts of several objects in one piece. It is easy to vary the difficulty of the puzzle to suit the ability of the children.

Making the miniature kite shown in Fig. 328 takes little time or material but the product flies satisfactorily. The frame illustrated in Fig. 326 may be made of two pieces of thin wood—such as that from fruit baskets—or from corrugated cardboard cut along the ridges. The pieces should be about 8 and 11 inches long, and ¾ inch wide; they should be notched a little where they cross, and slit at the ends. Tie the two pieces securely at the crossing with light, strong cord, leaving a long end by which to fly the kite. Pass a string from the bottom of the long piece around the outside through the slits, to the bottom again and tie it, leaving an end about 2 feet long for a tail. A large piece of tissue paper is laid on the desk, the frame is placed on top as shown in Fig. 327, and each corner in turn is folded over to the middle of the frame and pasted along both arms. The extra tissue is trimmed off each time. When rectangular pieces of tissue, about 2 inches by 1 inch, are tied along the tail at intervals of 2 or 3 inches, the kite is ready to fly.

References

See the list at the end of Chapter 27.

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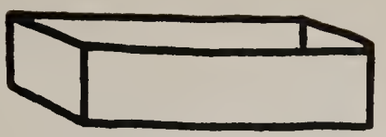

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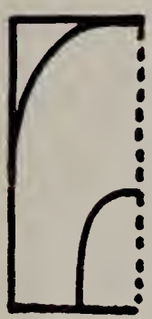

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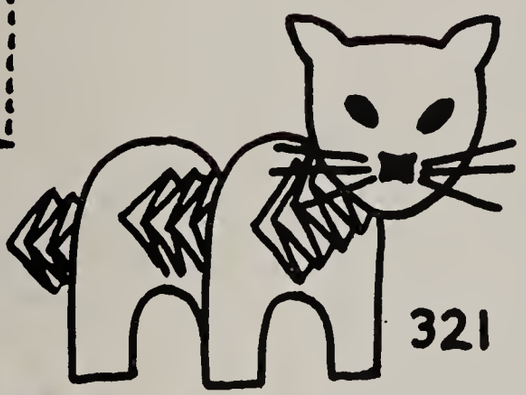

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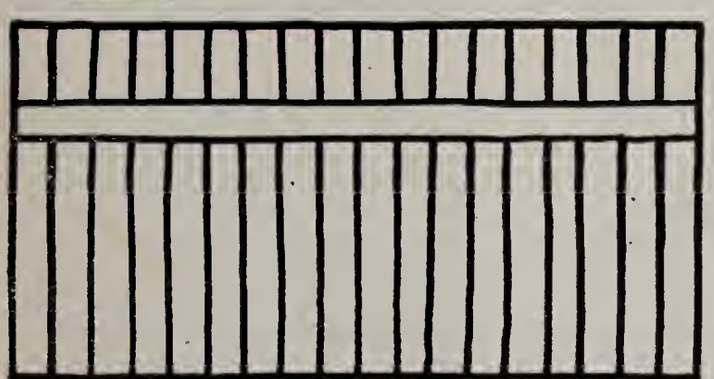

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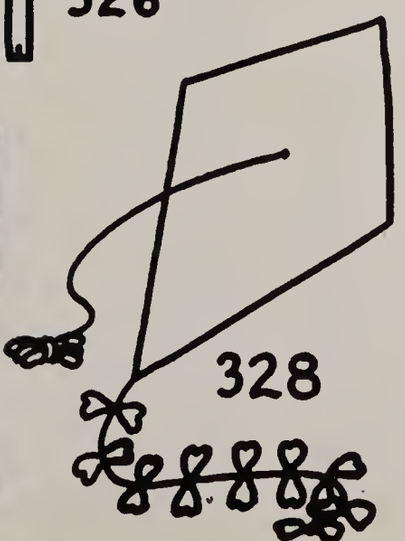

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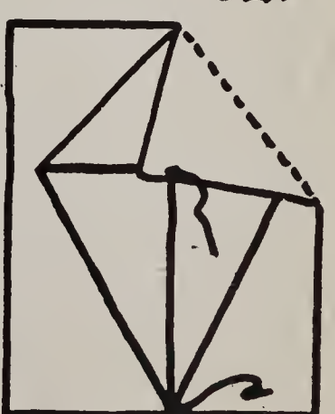

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